

A2 Level Macroeconomics Notes

Book-4

2019-21 Edition

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Preface

The idea of writing notes for Cambridge A-level Economics came to me in 2003, when, having already taught for a year, I realized that no single economics book available in the local and international markets covered all the topics with the depth and perspective required by the CIE syllabus. Both students and teachers had to consult 3 to 4 different books to find all the material that they needed—private candidates and new teachers had it even worse. Furthermore, it was really difficult for students to keep having to refer through different books when the exams were close and they were starved for time. I took on the challenge and decided to write a comprehensive text that explicitly followed the syllabus and exam pattern of the CIE. A year and a half later, in the middle of 2004, I had finally written and published four entire volumes of A-level economics notes. Part of them had been hand-written, and part of them had been typed. Soon, word of their usefulness spread, and they were bought all over Pakistan.

The notes had served their purpose well till the end of 2014. Till that point, there had only been minor changes in the syllabus. But now, there was a dire need to update them, for the new syllabus for the 2016-2021 examination introduced some significant changes in course content.

In this new and improved edition, old topics have been revised and new topics have been added. At the end of each topic, a relevant list of essay questions has been added as well, and these contain questions spanning from 1990 to 2019. These questions provide a clear guideline regarding how the examiners assess students' knowledge on the topics for Paper 2 and Paper 4, allowing the student to practice effectively. While writing these notes I kept in mind the way in which the examiner tests MCQs as well. The notes have been divided into four volumes to make it easier for those who are following the AS and A2 track separately and for those who are taking the composite exam; the syllabus division in the following pages has been provided for this express purpose.

I hope my efforts will help to contribute both to the learning of the student, as well as to the inquisitiveness of any teachers of A-level economics, effectively. Your suggestions will help me improve the quality of the content for later editions and will be highly appreciated.

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A-Level Economics 9708 Syllabus overview (2019-21)

AS Level		A2 Level	
Microeconomics	Macroeconomics	Microeconomics	Macroeconomics
Book 1	Book 2	Book 3	Book 4
a. Basic economic ideas and resource allocation b. Demand and supply and equilibrium c. Elasticity of demand and supply d. Government microeconomic intervention	1. Aggregate Demand (AD) and Aggregate Supply (AS) 2. Money and inflation 3. International trade 4. Exchange rate 5. Balance of payments 6. Government macro intervention (Macroeconomic policies)	1. Theory of consumer behavior 2. Production and cost 3. Rules of firms behavior 4. Perfect competition 5. Monopoly 6. Monopolistic competition 7. Oligopoly(kinked demand curve, game theory, price leadership and cartel) 8. comparisons of market structures 9. Objectives of a firm, Price discrimination, Contestable markets 10. Efficiency , equity and market failure 11. Labour market	1. National Income statistics 2. Economic growth and development 3. Keynesian theory of income and employment in 2, 3 and 4-sector economies 4. Money, banking and interest rate determination 5. Monetary and development policies 6. Employment/unemployment 7. Macroeconomic objectives and conflicts between the policy objectives 8. Keynesian and Monetarist schools

Book 1 (AS Level Microeconomics)**UNIT 1: BASIC ECONOMIC IDEAS AND RESOURCE ALLOCATION**

- a. Scarcity, choice and opportunity cost**
 - the fundamental economic problem
 - the meaning of scarcity and the inevitability of choices at all levels (individual, firms, governments)
 - the basic questions of what will be produced, how and for whom
 - the margin and decision making at the margin
- b. Positive and normative statements**
 - the distinction between facts and value judgements
- c. Factors of production**
 - the rewards to the factors of production: land, labour, capital and enterprise
 - specialization and division of labour (Transferred to Book 2 unit 2)
- d. Resource allocation in different economic systems and issues of transition**
 - decision making in market, planned and mixed economies

- the role of the factor enterprise in a modern economy
- e. Production possibility curves**
 - shape and shifts of the curve
 - constant and increasing opportunity costs
- f. Classification of goods and services**
 - free goods, private goods (economic goods) and public goods
 - merit goods and demerit goods as the outcome of imperfect information by consumers.
- g. Money (Transferred to book 2 unit 2)**
 - functions and characteristics in a modern economy
barter, cash and bank deposits, cheques, near money, liquidity

UNIT 2: DEMAND, SUPPLY AND EQUILIBRIUM

- a. Demand and supply curves**
 - effective demand
 - the meaning of the term, '*ceteris paribus*'
 - individual and market demand and supply
 - factors influencing demand and supply
- b. Interaction of demand and supply**
- c. Market equilibrium and disequilibrium**
 - meaning of equilibrium and disequilibrium
 - effects of changes in supply and demand on equilibrium price and quantity
 - applications of demand and supply analysis
 - movements along and shifts of the demand and supply curves
 - joint demand (complements) and alternative demand (substitutes)
 - joint supply
 - the workings of the price mechanism; rationing, signaling and the transmission of preferences

UNIT 3: ELASTICITY OF DEMAND AND SUPPLY

- a. Price elasticity, income elasticity and cross - elasticities of demand**
 - the meaning and calculation of elasticity of demand
 - the range of elasticities of demand
 - the factors affecting elasticity of demand
 - the implications for revenue and business decisions of price, income and cross-elasticities of demand
- b. Price elasticity of supply**
 - meaning and calculation of elasticity of supply
 - the range of elasticities of supply
 - the factors affecting elasticity of supply
 - implications for speed and ease with which businesses react to changed market conditions short run, long run, very long run

UNIT 4: GOVERNMENT MICRO INTERVENTION

- a. Consumer and producer surplus**
 - meaning and significance
 - how these are affected by changes in equilibrium price and quantity
- b. Government microeconomic intervention**
 - Taxes (direct and indirect)
 - Subsidies

- Maximum and minimum prices
- Transfer payments (transferred to Book 2 unit 1)
- Direct provision of goods and services
- Nationalization and privatization

Book 2 (AS Level Macroeconomics)

UNIT 1: AGGREGATE DEMAND (AD) AND AGGREGATE SUPPLY (AS):

- the shape and determinants of AD and AS Curves
- $AD = C + I + G + (X - M)$
- the distinction between a movement along and a shift in AD and AS
- the interaction of AD and AS and the determination of the level of output, prices and employment

UNIT 2: MONEY AND INFLATION:

a. Money

- functions and characteristics in a modern economy
- barter, cash and bank deposits, checks, near money, liquidity

b. Inflation

- the definition of inflation
- degrees of inflation
- deflation and disinflation
- measurement of inflation
- the distinction between money values and real data (shifted to Book 2 Unit 1)
- the causes of inflation (cost-push and demand-pull inflation)
- the consequences of inflation

c. Specialization and division of labour

UNIT 3: INTERNATIONAL TRADE:

a. The terms of trade

- the measurement of the terms of trade
- causes of changes in the terms of trade
- the impact of changes in the terms of trade

b. Principles of absolute and comparative advantage

- the distinction between absolute and comparative advantage
- free trade area, customs union, monetary union, full economic union
- trade creation and trade diversion
- the benefits of free trade, including the trading possibility curve

c. Protectionism

- the meaning of protectionism in the context of international trade
- different methods of protection and their impact, for example, tariffs, import duties and quotas, export subsidies, embargoes, voluntary export restraints (VERs) and excessive administrative burdens ('red-tape')
- the arguments in favor of protectionism

UNIT 4: EXCHANGE RATE:

a. Exchange rates

- definitions and measurement of exchange rates
- nominal, real, trade-weighted exchange rates

b. Exchange rate systems

- the determination of exchange rates floating, fixed, managed float

c. Changes and effects

- the factors underlying changes in exchange rates
- the effects of changing exchange rates on the domestic and external economy using AD, Marshall-Lerner and J curve analysis
- depreciation/appreciation
- devaluation/revaluation

UNIT 5: BALANCE OF PAYMENTS:**a. BOP accounts**

- the components of the balance of payments
- accounts (using the IMF/OECD definition)
- current account
- capital account
- financial account
- balancing item

b. BOP equilibrium and disequilibrium

- meaning of balance of payments equilibrium and disequilibrium
- causes of balance of payments disequilibrium in each component of the accounts
- consequences of balance of payments disequilibrium on domestic and external economy

UNIT 6: GOVERNMENT MACRO INTERVENTION:**a. Types of policy**

- fiscal policy
- monetary policy,
- supply side policy
(instruments of each policy)

b. Policies to correct balance of payments disequilibrium

- assessment of the effectiveness of fiscal, monetary and supply side policies to correct a balance of payments disequilibrium
(expenditure-reducing and expenditure-switching)

c. Policies to correct inflation and deflation

- assessment of the effectiveness of fiscal,
- monetary and supply side policies to correct inflation and deflation

Book 3 (A2 Level Microeconomics)**UNIT 1: THEORY OF CONSUMER BEHAVIOUR:****a. Law of diminishing marginal utility**

- Law of diminishing marginal utility
- its relationship to derivation of an individual demand schedule

b. Equi-marginal principle

- Equi-marginal principle
- limitations of marginal utility theory
- rational behavior versus behavioral economic models

c. Indifference curves and budget lines

- income, substitution and price effects for various types of goods

UNIT 2: PRODUCTION AND COST:**a. Short-run production function:**

- fixed and variable factors of production
- total product, average product and marginal product
- law of diminishing returns (law of variable proportions)
- marginal cost and average cost
- short-run cost function – fixed costs versus variable costs
- explanation of shape of Short-Run Average Cost (SRAC)

b. Long-run production function

- returns to scale
- long-run cost function
- explanation of shape of Long-Run Average Cost (LRAC)
- relationship between economies of scale and decreasing costs
- internal and external economies of scale and diseconomies of scale

UNIT 3: RULES OF FIRMS BEHAVIOUR:**a. Revenue:**

- total, average and marginal

b. Short-run and long-run continuity

- exit of firms in long-run
- shutdown in short-run

c. Profit:

- normal and abnormal (supernormal)
- total, marginal and average profits
- traditional profit maximizing objective of firm

UNIT 4: PERFECT COMPETITION:**a. Features**

- number of buyers and sellers
- nature of product
- degree of freedom of entry
- nature of information

b. Revenue:

- total, average and marginal revenue

c. Short-run price and output determination

- normal, abnormal and subnormal profits
- types of losses and shutdown in short-run
- short-run supply curve of a firm

d. Long-run price and output determination:

- abnormal to normal profits
- losses to normal profits

UNIT 5: MONOPOLY:**a. Features**

- number of buyers and sellers

- nature of product
- degree of freedom of entry
- nature of information

b. Revenue:

- total, average and marginal revenue
- relation between elasticity and revenue

c. Short-run price and output determination

- normal, abnormal and subnormal profits
- types of losses and shutdown in short-run

d. Long-run price and output determination:

- barriers to entry
- natural monopoly

UNIT 6: MONOPOLISTIC COMPETITION:**a. Features**

- number of buyers and sellers
- nature of product
- degree of freedom of entry
- nature of information

b. Revenue:

- total, average and marginal revenue

c. Short-run price and output determination

- normal, abnormal and subnormal profits
- types of losses and shutdown in short-run

d. Long-run price and output determination:

- abnormal to normal profits
- losses to normal profits

UNIT 7: OLIGOPOLY:**a. Features**

- number of buyers and sellers
- nature of product
- degree of freedom of entry
- nature of information

b. Revenue:

- total, average and marginal revenue

c. Price and output determination

- non-collusive models (kinked demand curve and game theory, mutual interdependence, Prisoner's Dilemma, 2 player Pay-off Matrix)
- collusive models of price leadership and cartel

d. Growth and survival of firms

- reasons for small firms
- integration, diversification, mergers,

UNIT 8: COMPARISON OF MARKET STRUCTURES:

Comparisons of performance of firms:

- revenue
- output
- profits
- efficiency
- X-inefficiency
- barriers to entry and exit
- price competition
- non-price competition collusion

UNIT 9: FIRM'S OBJECTIVES, PRICE DISCRIMINATION AND CONTESTABLE MARKETS:**a. Differing objectives of a firm:**

- traditional profit maximizing objective
- principal agent problem, for example the divorce of ownership from control
- sales maximization
- survival, strategic
- satisfying

b. Price discrimination:

- meaning
- types
- conditions
- operations
- advantages and disadvantages

c. Contestable markets:

- meaning
- examples
- perfectly contestable markets
- limit pricing

UNIT 10: EFFICIENCY AND MARKET FAILURE:**a. Efficient resource allocation**

- productive efficiency
- allocative efficiency
- Pareto optimality
- dynamic efficiency

b. Externalities and market failure

- reasons for market failure
- positive and negative externalities for both
- consumers and firms
- inefficient resource allocation

c. Policies to achieve efficient resource allocation and correct market failure

- application of indirect taxes and subsidies
- price and output decisions under nationalization and privatization
- prohibitions and licenses
- property rights
- information
- regulatory bodies

- deregulation
- direct provision of goods and services
- pollution permits
- behavioral insights and 'nudge' theory

d. Government failure in microeconomic intervention

- effectiveness of government policies

e. Social costs and benefits

- cost-benefit analysis
- social costs as the sum of private costs and external costs
- social benefits as the sum of private benefits and external benefits
- use of cost-benefit analysis in decision-making

UNIT 11: INEQUALITY AND POLICES TO DISTRIBUTE INCOME:

a. Equity versus efficiency

- price stabilization
- means tested benefits
- transfer payments (transferred to unit book 4)
- progressive income taxes, inheritance and capital taxes
- negative income tax
- poverty trap analysis
- Gini coefficient
- Lorenz curve
- inter-generational equity

UNIT 12: LABOUR MARKET:

a. Demand for Labour

- factors affecting demand for labour
- derivation of individual firm's demand for using marginal revenue product theory

b. Supply of labour

- factors affecting supply for labour
- net advantages and the long-run supply of labour

c. Wage determination in perfect markets

d. Wage determination in imperfect markets

- monopsony
- influence of trades unions on wage determination
- influence of government on wage determination

e. Competitive product and factor market forces determining wage differentials

f. Transfer earnings and economic rent

Book 4 (A2 Level Macroeconomics)

UNIT 1: NATIONAL INCOME STATISTICS:

a. National Income statistics

- Gross Domestic Product (GDP)
- Gross National Product (GNP)
- Gross National Income (GNI)
- transfer payments
- the distinction between money values and real data

b. National debt (government or public sector debt)

c. Business (trade) cycle

UNIT 2: ECONOMIC GROWTH AND DEVELOPMENT:

a. Economic growth and development

- definition of economic growth
- economic development and sustainability
- actual versus potential growth in national output
- factors contributing to economic growth
- costs and benefits of growth, including using and conserving resources

b. Indicators of living standards and economic development

- monetary, non-monetary
- Human Development Index (HDI)
- Measure of Economic Welfare (MEW)
- Human Poverty Index (HPI), later supplanted by the Multidimensional Poverty Index (MPI)
- Kuznets curve

c. National Income statistics and standard of living

- use of National Income statistics as measures of economic growth and living standards
- comparison of economic growth rates and living standards over time and between countries

d. Classification of countries

- characteristics of developed, developing and emerging (BRICS) economies:
 - by population growth and structure
 - income distribution
 - economic structure
 - employment composition
 - external trade and urbanisation in developing economies

e. Policies towards developing economies

- policies of trade and aid
- types of aid
- nature of dependency
- trade and investment
- role of multinationals
- Foreign Direct Investment (FDI)
- external debt
- role of IMF and World Bank
- impact of corruption
- importance of the legal framework in an economy

UNIT 3: KEYNESIAN THEORY OF INCOME AND EMPLOYMENT:

a. The circular flow of income

- closed and open economies
- the circular flow of income between households, firms, government and the international economy

b. Aggregate Expenditure (AE) function

- meaning
- components of AE and their determinants
- average and marginal propensities to save and consume

c. Income determination using

- AE and income approach
- withdrawal (leakage) and injection approach

d. Inflationary and deflationary gaps

- full employment level of income and equilibrium level of income
- output gap and expenditure gap
- inflationary and deflationary gaps

e. Multiplier

- the multiplier

f. Accelerator

- autonomous and induced investment
- the accelerator

UNIT 4: MONEY, BANKING AND INTEREST RATE DETERMINATION:**a. Money and banking**

- money supply (theory)
- broad and narrow money supply
- sources of money supply in an open economy
 - commercial banks and credit creation
 - role of central bank
 - quantitative easing
 - total currency flow

b. The demand for money and interest rate determination

- Liquidity Preference theory

UNIT 5: MACROECONOMIC POLICIES:**Monetary policy**

- transmission mechanism of monetary policy
- Quantity theory of money ($MV = PT$)
- deficit financing
- existence of government failure in macroeconomic policies
- Laffer curve analysis

UNIT 6: EMPLOYMENT/UNEMPLOYMENT:**Employment/unemployment**

- size and components of labour force
- labour productivity
- full employment and natural rate of unemployment
- causes of unemployment
- consequences of unemployment
- types of unemployment
- unemployment rate
- patterns and trends in (un)employment
- difficulties involved in measuring unemployment

- policies to correct unemployment

UNIT 7: MACROECONOMIC OBJECTIVES AND CONFLICTS BETWEEN POLICY OBJECTIVES:

Government macro policy aims on:

- inflation
- balance of payments
- exchange rates
- unemployment
- growth and development

Inter-connectedness of problems

- effectiveness of policy options to meet all macroeconomic objectives
- links between macroeconomic problems and their interrelatedness, for example:
 - relationship between internal and external value of money
 - relationship between balance of payments and inflation
 - trade-off between inflation and unemployment; Phillips curve
- problems arising from conflicts between policy objectives on inflation, unemployment, economic growth, balance of payments, exchange rates and the redistribution of income and wealth

Keynesian and Monetarist schools

- different theoretical approaches to how the macro economy functions

Directive Word	What it means
Calculate	Work out using the information provided
Define	Give the exact meaning of
Describe	Give a description of, explain the main features of
Illustrate	Give examples, use a diagram
Outline	Describe the key points without detail
Analyse	Explain the main points in detail, examine closely, separate into parts and show how all the parts connect and link
Compare	Explain the similarities and differences between
Explain	Give clear reasons or make clear the meaning of, use examples and explain the theory behind the question
Consider	Give your thoughts about, with some justification
Assess	Show how important something is, give your judgment on
Comment upon	Give your reasoned opinion on, with explanations
Criticise	Give an opinion but support it with evidence

Discuss	Give the important arguments for and against, often requires a conclusion
Evaluate	Discuss the importance of, judge the overall worth of, make an attempt to weigh up your opinions
To what extent	Give reasons for and against, come to a conclusion with a justification of which arguments are strongest and which are weakest

UNIT 1

National Income Statistics

A2 Level

Macroeconomics

Notes Book 4

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Syllabus 2019 – 21

- a. National Income statistics
 - Gross Domestic Product (GDP)
 - Gross National Product (GNP)
 - Gross National Income (GNI)
- b. transfer payments
- c. the distinction between money values and real data
- d. National debt (government or public sector debt)
- e. Business (trade) cycle



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Unit 1 National Income Accounting

National Income Concepts

There are several versions of national income, though, strictly speaking, only one of them is referred to as the national income. These include:

- Gross Domestic Product (GDP)
- Gross National Product (GNP)
- Net Domestic Product (NDP)
- Net National Product (NNP)
- Disposable National Income (Y_d)

Gross Domestic Product (GDP)

Gross = Total

Domestic = Produced within a country

Product = Goods and services.

Simply, GDP is the total goods and services produced within a country in one year.

Formal Definition:

“It is the money value of all final goods and services produced within the geographical boundaries of country in a given period of time—usually one year.”

What is included and what is excluded from GDP

- GDP is expressed in terms of money.
 - It includes only final goods.
 - It accounts for goods and services produced within geographical boundaries of a country.
 - GDP includes only those goods which are produced during the period of time for which GDP stands.
 - GDP accounts only for goods that are traded through official market.
 - Private and public transfers are not included
1. GDP is expressed in terms of money (rupees in Pakistan) because the goods and services are non-additive in physical quantities due to differences in the units of measurements (tones of wheat, meters of cloth, number of cars, number of haircuts, etc.) and the per unit values (one car is not equal to one haircut or even one scooter). It is said that “you cannot add apples and oranges. Quantities of various goods are multiplied by their respective prices, and then the various money values are added to give GDP.

$$\text{GDP} = P_1Q_1 + P_2Q_2 + \dots + P_nQ_n.$$

$$\text{GDP} = \sum PQ$$
 2. Raw materials and intermediate goods (i.e., goods resold or used for further production during the measurement period) are not included in the GDP to avoid double counting. Thus, wheat used in making bread, leather used in making shoes, and tires used in cars are excluded because these are contained in the values of bread, shoes, and cars respectively. Alternatively, one can think of recording value added at each stage of production.
 3. GDP accounts for all goods produced within the geographical boundaries of a country irrespective of who is producing them and excludes all those goods which are produced outside the territorial

boundaries of the country. Therefore, all production by multinationals and foreigners in a country will be the part of GDP of that country.

4. Income is a flow concept, and so the GDP includes only those items that are produced during the period of time for which the GDP stands. Thus, the GDP in 2016 includes the production of all goods and services between January 1, 2016 through December 31, 2016 only.

Transactions in old goods and the secondary capital market, barring commissions, if any, are excluded from the GDP. Even transactions in the primary capital market are ignored until they lead to purchases of goods and services. Thus, trade in old cars/houses/other items and in equities/bonds is not part of the GDP, barring the commission, if any, by intermediates. This is because the commissions alone constitute the current production. The second hand sales either do not reflect current production (sale of an old car by one person to another) or they involve double counting.

Similarly, purely financial transactions are mere exchanges between the parties and so are non-productive. Capital gains/losses are also ignored in the GDP as they are earned over a period of time and not usually during the current year. Thus, if an art collector sells his painting and makes a capital gain, the sales proceed does not enter the GDP as the painting was produced several decades ago. The year the painting was produced, it was a part of the national income but since it was not marketed then, it remained outside even the national income.

5. The GDP accounts only for goods that are traded through the official market. This is a limitation of the measure but it is resorted to internationally owing to the difficulties in measuring non-marketed or not officially marketed production. Thus, it ignores the 'do-it-yourself' activities (which are not paid for) as well as under-reported productions. For example, household work, including babysitting, the white washing of one's own house, and the tutoring of one's own children, and other do-it-yourself activities are excluded, while payments to maid-servants, washer men paid babysitters private tuitions and so on are included in the GDP. Also, activities like painting, drawing, photography, etc., which are carried out for self-consumption (or even for sale but not in the current year), are left out of the GDP. Similarly, unreported productions (though a part of market transactions) triggered by the desire to avoid excise duties or for other reasons, are not included in the GDP. These give rise to what is called as the black (parallel) economy, which has two components: (1) legal but un/under-reported and (2) illegal (like gambling, drinking, prostitution, and narcotics), which do not even warrant reporting. These are, by all means, parts of income, but there is a problem in their valuation and information. This introduces a downward bias in the measurement of GDP. Also, some other market transactions, which are very much official, like transfer payments (and market gains/losses, as mentioned above) are not included in the GDP. This is because such transactions do not constitute current production. To appreciate this, consider transfer payments, which are of two types: public and private. **Public transfers** are social security payments, relief payments, and retirement and pension payments, which the government makes to households. In these transactions, the recipients make no contribution to the current production in return for these benefits (retirement and pension payments are for past work, not for current work). As such, they are excluded from the GDP. **Private transfer** payments—such as a son paying his father's old-age expenses, a father's gift to his son, or a rich household's/country's gift to poor people/countries—do not entail production, but simply the transfer of funds from one household to another. Thus, not all officially marketed transactions are included in the GDP.

Domestic and National Income

Domestic income is income earned, i.e., rewards to the factors of production, within a territorial or geographical boundary. Put simply, it means income earned within a country like Pakistan.

This would therefore include income earned by non-citizens who are residing or working in the country, i.e., foreign workers.

National income refers to income earned by nationals of the country, for instance, Pakistan. This will automatically exclude all income of foreign workers and would include the income of a Pakistani working overseas.

There are some Pakistanis working abroad in countries like Japan, the United States, West Germany, and others. The income earned by these Pakistanis must be included in the computation of national income. On the other hand, foreign workers in Pakistan are not nationals of Pakistan, and the income earned by them must be deducted from domestic income to derive national income.

Gross National Product (GNP)

“It is the money value of all final goods and services produced by citizens of a nation irrespective of wherever they are living in the world, in a given period of time usually one year.”

$$\begin{aligned}\text{GNP} &= \text{GDP} + \text{Incomes from abroad} - \text{Incomes to abroad} \\ \text{GNP} &= \text{GDP} + \text{Net property income from abroad (NPIFA)}\end{aligned}$$

Gross and net investment

- Gross investment is the expenditure on new construction, equipment and changes in stock.
- Net investment is gross investment minus depreciation.
- Depreciation or capital consumption is the loss in value of assets because of use, wear and tear or just obsolescence.

Example

To illustrate this point, say a firm uses 50 machines and, every year, five machines will be depreciated. Depreciation could also mean the machines are obsolete or have deteriorated. With five depreciated machines, let us assume that the firm will buy seven new machines. The seven new machines are considered as ‘gross investment’. On the other hand, the actual addition to the existing physical machinery is only two. The two machines represent ‘net investment’.

$$\text{Gross investment} - \text{Depreciation (Capital Consumption)} = \text{Net investment}$$

Net Domestic Product (NDP)

“It is the money value of all final goods and services produced within the geographical boundaries of a country in a given period of time, usually one year, deducted with depreciation or capital consumption.

$$\text{NDP} = \text{GDP} - \text{Depreciation}$$

Net National Product (NNP)

“It is the money value of all final goods and services produced by a nation in a given period of time usually one year, deducted with depreciation.”

$$\text{NNP} = \text{GNP} - \text{Depreciation} = \text{NDP} + \text{NPIFA} = \text{GDP} + \text{NPIFA} - \text{Depreciation}$$

National Income

Income of whole nation is national income. National income strictly speaking is equal to net national product at factor cost.

$$Y = \text{NNP at factor cost}$$

However national income is also approximately equal to GDP, GNP, or NDP.

Disposable National Income (Y_d)

Disposable income is the personal Income of households left after paying Income Tax. It is the income which is at households disposable to spend or save.

$$Y_d = Y - \text{Income Tax} = \text{NNP at factor cost} - \text{Direct Taxes} \\ = \text{GDP} + \text{NPIFA} - \text{Depreciation} - \text{Direct taxes}$$

Nominal and Real Income

Income is measured both in nominal as well as in real terms. The former is obtained when outputs are valued at their corresponding current prices and the latter is obtained when outputs are valued at their corresponding constant prices (prices prevailing in the chosen base year).

Both these concepts are useful. While nominal is not the true measure of income, a change in it over time is a poor indicator of the change in the economic well-being of the earner. This is because this could change due to a mere change in prices or a change in it could be composed of changes both in the output as well as in the prices. As such, if an individual's income doubles and the prices of all the goods and services that he buys with all his income also double, there is no change in his purchasing power or economic well being. Therefore, for judging the change in economic well being, we need to remove the price-effect from the changed income. The real income concept achieves this by valuing all the goods and services at their corresponding prices in some base year and, thus, a change in it indicates a change in the purchasing power over the base year.

To convert Nominal National Income into Real National Income, the Income Deflator is used. The Deflator is a value that removes the effect of inflation from Nominal National Income.

$$\text{Real national income} = \frac{\text{Nominal national income}}{\text{Deflator}}$$

$$\text{Where Deflator} = \frac{\text{Current year price index}}{\text{Base year price index}}$$

Example:

Nominal NY=\$200 million

Current year price index = 110

Base year price index=100

$$\text{Deflator} = \frac{\text{Current year price index}}{\text{Base year price index}} = \frac{110}{100} = 1.1$$

$$\text{Real national income} = \frac{\text{Nominal national income}}{\text{Deflator}} = \frac{200}{1.1} = \$182\text{m}$$

Measured and PPP (purchasing power parity) Income

This concept is used to convert the country's measured (at the official exchange rate) income data into the comparable (purchasing power countries is constructed on the basis of the corresponding country's data on prices of goods and services. Since prices vary across countries, country wise national income data is not comparable. To overcome this difficulty, the World Bank has designed a scheme of converting all individual country's income data into the PPP income data, by computing the PPP of each country's currency in terms of the US dollar. Thus the PPP of Pakistani rupee = Number of Pakistani rupees required to purchase a representative basket of goods and services in Pakistan that one US dollar will buy in the United States.

Methods of Calculating National Income

- Income Approach
- Expenditure Approach
- Output Approach

Income Approach

1. This approach looks at the flow of economic activities from the income point of view.
2. The components are:
 - (a) Wages and salaries of all employees in every sector
 - (b) Interest and dividends from shares
 - (c) Rent, including imputed rent
 - (d) Profits, i.e., undistributed profits
 - (e) Income of self-employed workers such as hawkers

Criteria

In deciding whether to include or exclude certain items in national income accounting, the following four criteria have to be fulfilled, though not all four criteria need necessarily be met. The criteria are:

1. Whether the item makes a direct contribution to the production of goods and services, i.e., there is a corresponding increase in terms of output. It must be a final, and not an intermediate, product or service.
2. Whether the worker expects profits, i.e., the worker is profit motivated in marketing his services.
3. It must be involuntary.
4. It must be legal. All illegal transactions are disregarded.

Transfer payments or transfer income

This refers to income received without any direct contribution to the production of goods and services, i.e., without any corresponding increase in the volume of goods and services in the country.

These include:

- Pensions
- Scholarships
- Unemployment benefits
- Allowances to housewife
- Interest on the national debt

Transfer payments are not included in national income.

Output or Product approach

1. This is the aggregate of all goods and services from the three sectors. The three sectors are the primary, secondary, and tertiary sectors (i.e., agricultural, mining, and fishing industries, the industrial sector, and the service sector). To exemplify, the total output of a country could include:
 - 4 kg salt
 - 500 g curry powder
 - 40 pieces furniture
 - 600 rolls paper
 - 40 an-hours teaching service

2. The figures cannot be totaled up because of different dimensions and they, therefore, have to be reduced to a common denominator, i.e., price. The value could then be $\$10 + 100 + \$10 + 20 = \$145$ in terms of the total value of goods and services. The next question would then be: "which price?"

The problem of double counting:

This problem can be best explained by using an illustration.

Firm	Product	Purchase Price (\$)	Selling Price (\$)	Value added (\$)
A	Wheat	–	1	$1 - 0 = 1$
B	Flour	1	3	$3 - 1 = 2$
C	Bread	3	7	$7 - 3 = 4$
D	Sandwich	7	10	$10 - 7 = 3$
Total value			21	10

Double counting overstates the total value—the value which is included in National Income—since the value of the sandwich (i.e., the retail price) also includes the values of wheat, flour, and bread.

To avoid this problem, two possible methods can be adopted:

- Include only the final value of the product (10 dollars).
- Include the sum of value added (i.e., the contribution of each firm to the production of the good itself).

The total value added is 10 dollars. The formula for value added is:

$$\text{Value added} = \text{Sales price} - \text{Purchases price}$$

Expenditure Approach

Components

There are four components in calculating national income.

- **C:** Household expenditure or consumer expenditure or consumption.
- **I:** Producer expenditure or gross investment. This component can be further sub-divided into three parts:
 - New construction such as housing, factories, etc.
 - Equipment like machinery tools, etc.
 - Changes in business stocks or inventories, i.e., goods produced but unsold.
- **G:** Government expenditure on goods and services, excluding transfer payments.
- **X–M:** Net exports

$$\text{GDP} = C + I + G + X - M$$

The National Income Accounting Identity

The three approaches (i.e., the income, output and expenditure approaches) will ultimately give us the same figure in terms of national income, net product, and national expenditure. Should there be any statistical discrepancy, the item 'errors and omissions' will balance it.

National income = National Product = National expenditure

Market price and factor cost

- Market price refers to the prevailing price in the market through the forces of demand and supply. It is the price that consumers have to pay to purchase the product or service.

2. National income or factor cost refers to the sum of all income earned by all the factors of production—for instance, suppliers of land, labour, and capital—which help to produce the year's national output in the economy.
3. The difference between national income at market price and national income at factor cost arises from indirect taxes and subsidies.
4. In order to obtain national income at factor cost, we subtract indirect taxes and add subsidies to national income at market price.

Example

Rice	\$
Market Price	12
+ Subsidies	3
Factor cost	15

The price that the consumer is paying for rice is only \$12. Yet, the producer receives \$15. The 3 dollars come from government subsidies.

Example

Cigarettes	\$
Market prices	10
– Indirect taxes	2
Factor cost	8

In this case, the consumer pays a higher price (\$10) for the pack of cigarettes. Yet, the producer only receives \$8. The 2 dollars goes to indirect taxes.

To derive factor cost from market price, the adjustment is:

$$\text{Market price} + \text{Subsidies} - \text{Indirect taxes} = \text{Factor cost}$$

Problems in Calculating National Income:-

In calculating national income, there are two major types of problems—practical and conceptual.

Practical Problems	Conceptual Problems
1 Problem of illiteracy	1 Problem of arbitrary definitions
2 Problem of expertise	2 Problem of estimation
3 Lack of sophisticated machinery	3 Problem of double counting
4 Problem of inaccessibility	4 Problem of stock appreciation
5 Problem of false information	5 Problem of measuring quality.
6 Problem of black market	

Practical Problems**1. Problem of Illiteracy:**

This is especially prominent in most third-world countries like India, Bangladesh, Indonesia, Myanmar, and many African nations. Governments of these countries will face difficulties in getting information such as estimated value of home-produced goods. The people fail to appreciate the significance of data collection for the calculation of the national income.

2. Problem of Expertise:

The shortage of professionals in most developing countries is a major problem. To estimate national income accurately, the services of statisticians, analysts, programmers, researchers, etc. are in dire need. These professionals will be able to present the national income data with the minimum technical and human errors.

3. Lack of sophisticated machinery

Besides the human factor, the technical aspect is equally important. Developing countries, like Indonesia, India and Peru face the problem of technical know-how and even technical equipment. They need the latest and most advanced computers to compute the massive volume of data. With the obsolete machinery that they are presently utilizing, the data become questionable.

4. Problem of inaccessibility

This problem also arises predominantly in the poor countries. There are certain areas in their countries that are remote and isolated. Though they are not totally inaccessible, yet, in terms of cost they are expensive to survey. These areas are usually inhabited by the poorest section of the population. Their economy is one of subsistence level and exchange is based on barter trade. To calculate the national income of the country, these activities must be estimated and included under national income accounting. Without such data, national will not be accurate.

5. Problem of False Information

This problem prevails in all countries but is more serious in the developed countries than in the developing countries. Businessmen and other self-employed people usually under estimate their earnings primarily to evade paying high taxes. This would of course lower the national income figures of the country. Perhaps stringent rules should be implemented, and tax evaders punished severely.

6. Problem of black Market

Uses of National Income Statistics

The computation of the national income is done annually by every country in the world. Even poor countries have to calculate their national income each year. The usefulness of the national income includes:

- 1. Measurement of the standard of living**, Ceteris paribus, there is a correlation between national income and standard of living. Countries with high national income such as the United States, the United Kingdom, Canada, Australia, etc., also have high standards of living. The term standard of living refers to the availability of goods and services in the country together with other facilities. Leisure time is also considered a part of standard of living. Those countries with very low national income like Ethiopia and Myanmar would normally also have low living standards.
- 2. Economic Performance:** From national income figures, we are able to state whether the economy is progressing, stagnating, or deteriorating, and if national income has improved steadily over the years. This is indicative of a stable economy and high productivity.
- 3. Comparisons between countries:** It is through national income that we can differentiate between the developed and developing countries, i.e., by using the criterion of US \$ income per capita.
- 4. Sectoral contributions:** There are three sectors in the economy: the primary (e.g., agriculture, fishing and mining), the secondary (e.g., manufacturing and construction), and the tertiary (that is, services like banking, shipping, aviation, etc.). By analyzing the contribution of each sector, we will be able to know which sector makes the most contribution to the nation's economic growth.
- 5. Income distribution:** In terms of income approach, there are four major components—wages and salaries, interest and dividends, rents (including imputed rent), and undistributed profits. If undistributed profits constitute a major portion of national income, it would imply that there is greater income inequality, because income is in the hands of producers and not the labour force. On the other hand, if wages greatly exceed profits, then we can safely assume that there is more income equality.

6. **Taxable capacity:** Generally, the more affluent the population, the higher as a country's national income. From national income figures, the government can gauge the taxable capacity of its working population. If national income is high like as in the United States, the United Kingdom and other developed nations, then the income tax rates and other tax rates can be high. For instance, the maximum income tax rate in the United Kingdom is almost 60 per cent as compared to 35 per cent in Pakistan.
7. **Expenditure pattern:** Expenditure consists of three components—household expenditure, gross capital expenditure. This would also reflect the various types of goods available in the country, i.e., more of consumer or producer goods. The expenditure pattern can also reveal the type of economic system the country operates on. For example, if the government does most of the spending, then we can conclude that it is a centrally-planned economy.
8. **Balance of payments:** It can be defined as the sum total of payments and receipts that a country earns as a result of international trading with the rest of the world. From national income data, we can roughly estimate whether the country will face a deficit or a surplus on its balance of payments. If income paid abroad is far greater than income received from abroad, there will be an outflow of currency from the country and this will lead to disequilibrium in the balance of payments (i.e., an adverse balance of payments).
9. **Investment or fixed capital formation:** According to the multiplier theory propounded by J M Keynes, investment plays a vital role in determining the size of future national income of a country. From national income figures, we will be able to assess the rate of fixed capital formation that is made, and from there, the government has to take positive steps to encourage further investment projects.
10. **National planning:** This point encompasses all preceding uses of national income data. The government will formulate the five-year plan, ten-year plan, development plan, sectoral activities plan, etc., based on national income statistics. The government will have to forecast future developments on the basis of present economic performance. This explains why all countries, rich or poor, have to collate data on national income.

National debt

Government or public sector debt is the total debt a central government or the whole public sector has built up over time.

$$\text{National debt} = \text{domestic debt} + \text{external debt}$$

National debt is not the same as external debt as some of the debt will be owed to citizens of the country. For example, some households may have purchased government saving certificates and some domestic banks may have bought government bonds. Payments to foreign lenders to the government, however, will involve an outflow of money from the country

National debt depends on several factors.

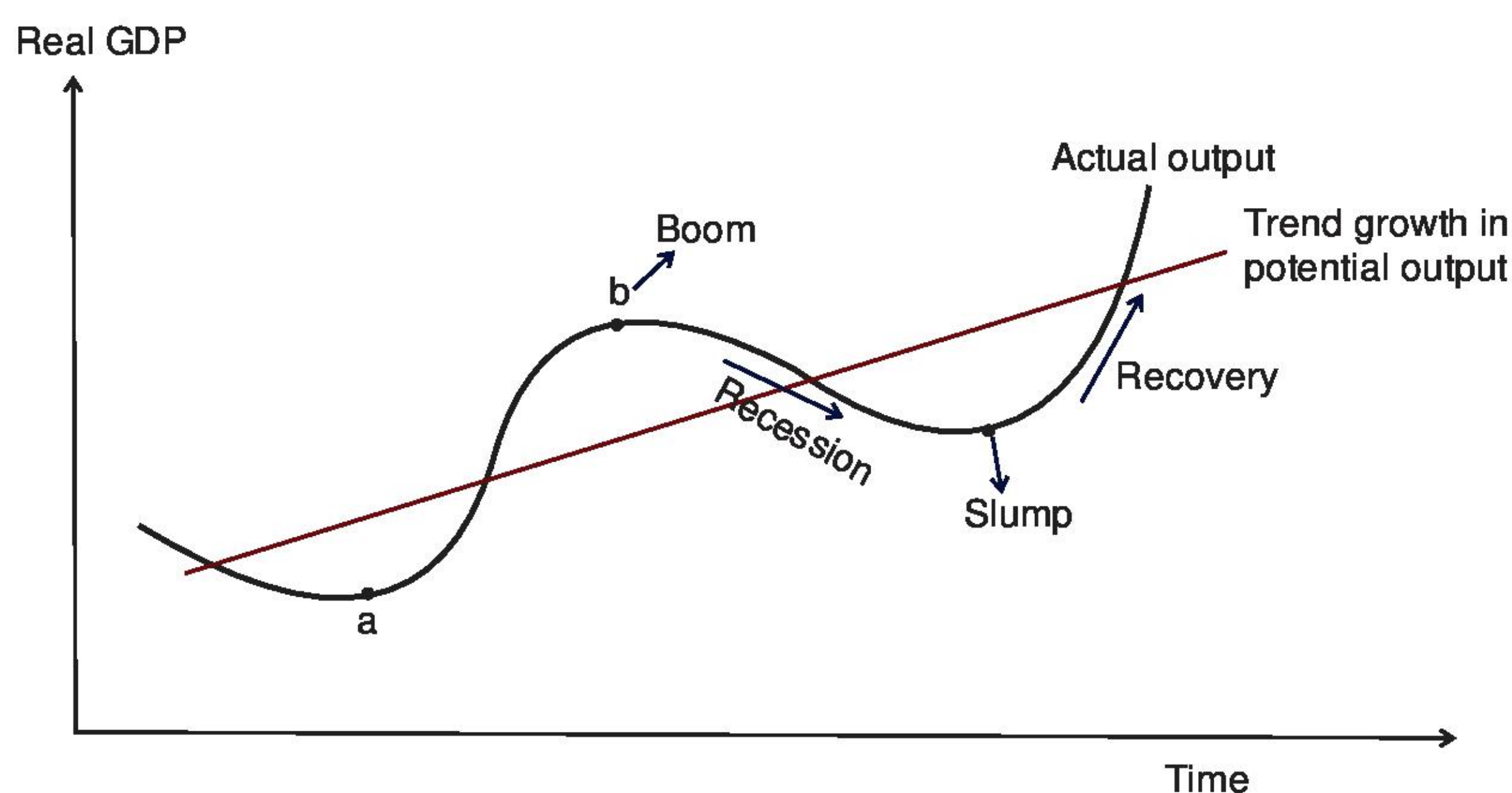
- If a government has a **budget deficit** in one year it will add to the country's national debt. In contrast, the extra revenue earned from a budget surplus can be used to pay off part of the national debt.
- The national debt tends to increase during **economic downturns** as this is when government expenditure tends to rise at a more rapid rate than tax revenue. There may also be a tendency for a government to spend more than its revenue even during economic booms (a structural deficit).
- **military conflicts** can result in significant increases to the national debt.

Disadvantages of increase in national debt:

- There is the opportunity cost of interest payments on the national debt. The government revenue used to service the debt might have been used to finance, for instance, the building of new hospitals.
- A large national debt may make financial institutions, firms, individuals and governments reluctant to lend and may push up the rate of interest that has to be paid.

Business (Trade) Cycle

The term trade cycle is defined as the periodic fluctuation of national output around its long term trend. It is used to describe the tendency for the volume of economic activity (GNP) such as employment, profits and prices to proceed in a succession of booms and slumps (also called troughs) as shown in diagram below.



Economic activity refers to the level of output, foreign trade, investment, share prices, employment and consumer spending. The different phases of trade, investment, share prices, employment, and consumer spending. The different phases of the trade cycle are labeled as X, H, Z and K which represent boom, recession, trough and recovery respectively. Booms and recessions can last for several months or even years and then come to an end. No two trade cycles are quite the same. The interval between the peaks or between the troughs (which is also called the duration of a trade cycle) is not constant, and the intensity of the troughs varies, trade cycles show a rough pattern over time and display unpredictable deviations from the expected pattern.

Stages of the trade cycle

The trade cycle consists of four phases: boom (point X), recession (point H between X and Z), trough point Z) and recovery (point K between Z and Y). Recovery follows a recession, then reaches a peak boom and is succeeded by another recession. The length of a business cycle is measured by the interval between the peaks (or between any other pair of corresponding points). Some economists argue that the cycles are brought about by new inventions, population growth, mineral or oil discoveries, political factors, and war. The cycles tell us about the behavior of the economy as a whole.

Features	Boom	Recession	Slump	Recovery
Business pessimism	Lowest	Rises	Highest	Falls
Business optimism	Highest	Falls	Lowest	Rises
Investment	Highest	Falls	Lowest	Rises
AD	Highest	Falls	Lowest	Rises
GDP	Highest	Falls	Lowest	Rises
Employment	Highest	Falls	Lowest	Rises
Demand pull inflation	Highest	Falls	Lowest	Rises
Current account	Deficit	Improves	Surplus	Worsen

Boom is a period when business activity is expanding, i.e. production increases, prices and wages rise, profits increase, unemployment declines and the current account is in deficit. This phase is characterized by high output, low unemployment, high inflation and a deficit current account.

Recession is a temporary falling off in business activity which may or may not develop into a trough. During a recession, the rate of inflation falls, exports will rise and imports fall; consequently the balance of payments improves, consumption and investment are low and interest rates charged by banks are also low. In brief, this phase is characterized by low output, high unemployment, low inflation and a surplus current account.

Trough is when business activity is at the bottom.

In the **recovery** phase of the trade cycle, an attempt is made by the government to expand the economy either by monetary means (e.g., encouraging banks to increase their lending) or fiscal measures (e.g., cutting taxes). This phase is marked by a rapid rate of economic growth due to government policies such as easing of credit restrictions to encourage expansion of production and a reduction in cyclical unemployment. During this phase of the trade cycle, prices will rise, total transactions will increase and the national income will rise as well. Recovery may develop into a boom.

Past Paper Questions

Topic: National Income Calculations

1. M/J 15/P41/Q7/a

In 2012, a table for Gross Domestic Product (GDP) per head showed that only three of the world's ten richest countries had populations above 7 million. These were the United States: 315 million; the United Arab Emirates: 8.2 million; and Switzerland: 8 million.

Explain how GDP is calculated and show how GDP at market prices is different from net national income at factor cost (basic prices). [12]

2. O/N 11/P43/Q5/a

In 2009 the International Monetary Fund (IMF) said that 'it expected global economic growth to fall below zero making it the worst performance in most of our lifetimes.'

Explain how economists measure a country's economic growth rate. [12]

3. O/N 11/P41/Q5/a

Two economic indicators are Gross Domestic Product (GDP) at market prices and Net National Income (NNI) at factor cost. Explain what is meant by an economic indicator and the differences between the two indicators mentioned. [12]

4. M/J 11/P41/Q5/a

Explain what is meant by GDP and describe the alternative methods by which it is calculated. [12]

5. M/J 05/P4/Q7/a

Explain two methods of calculating gross domestic product used in national income statistics. [10]

Topic: Problems Of Calculating National Income

1. O/N 16/P43/Q7/b

Are the problems that arise in estimating changes over time in national incomes significantly different depending on whether the countries are developing or developed? [13]

Topic: Characteristics Of Economic Recession

1. M/J 18/P42/Q6/a

In 2016, governments in some countries were concerned about inflation, whilst the governments of other countries were concerned about recession.

Consider how the causes of recession may differ from the causes of inflation. [12]

2. M/J 15/P42/Q5/a

'Lack of consumer spending causes recessions. Recessions do not improve a country's standard of living. It is always better, therefore, to encourage consumer spending for this improves a country's standard of living.'

What is a recession and is it always caused by a lack of consumer spending? [12]

3. O/N 09/P42/Q6/a

In some countries there has been fear of economic recession in recent years. Explain the main characteristics of an economic recession. [10]

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UNIT 2

Economic Growth and Development

A2 Level

Macroeconomics
Notes Book 4

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Syllabus 2019 – 21

a. Economic growth and development

- definition of economic growth
- economic development and sustainability
- actual versus potential growth in national output
- factors contributing to economic growth
- costs and benefits of growth, including using and conserving resources

b. Indicators of living standards and economic development

- monetary, non-monetary
- Human Development Index (HDI)
- Measure of Economic Welfare (MEW)
- Human Poverty Index (HPI), later supplanted by the Multidimensional Poverty Index (MPI)
- Kuznets curve

c. National Income statistics and standard of living

- use of National Income statistics as measures of economic growth and living standards
- comparison of economic growth rates and living standards over time and between countries

d. Classification of countries

- characteristics of developed, developing and emerging (BRICS) economies:
 - by population growth and structure
 - income distribution
 - economic structure
 - employment composition
 - external trade and urbanization in developing economies

e. Policies towards developing economies

- policies of trade and aid
- types of aid
- nature of dependency
- trade and investment
- role of multinationals
- Foreign Direct Investment (FDI)
- external debt
- role of IMF and World Bank
- impact of corruption
- importance of the legal framework in an economy

Unit 2 Economic Growth and Development

Definition of economic growth:

Economic Growth an increase in real GDP (actual growth) or potential GDP (potential growth).

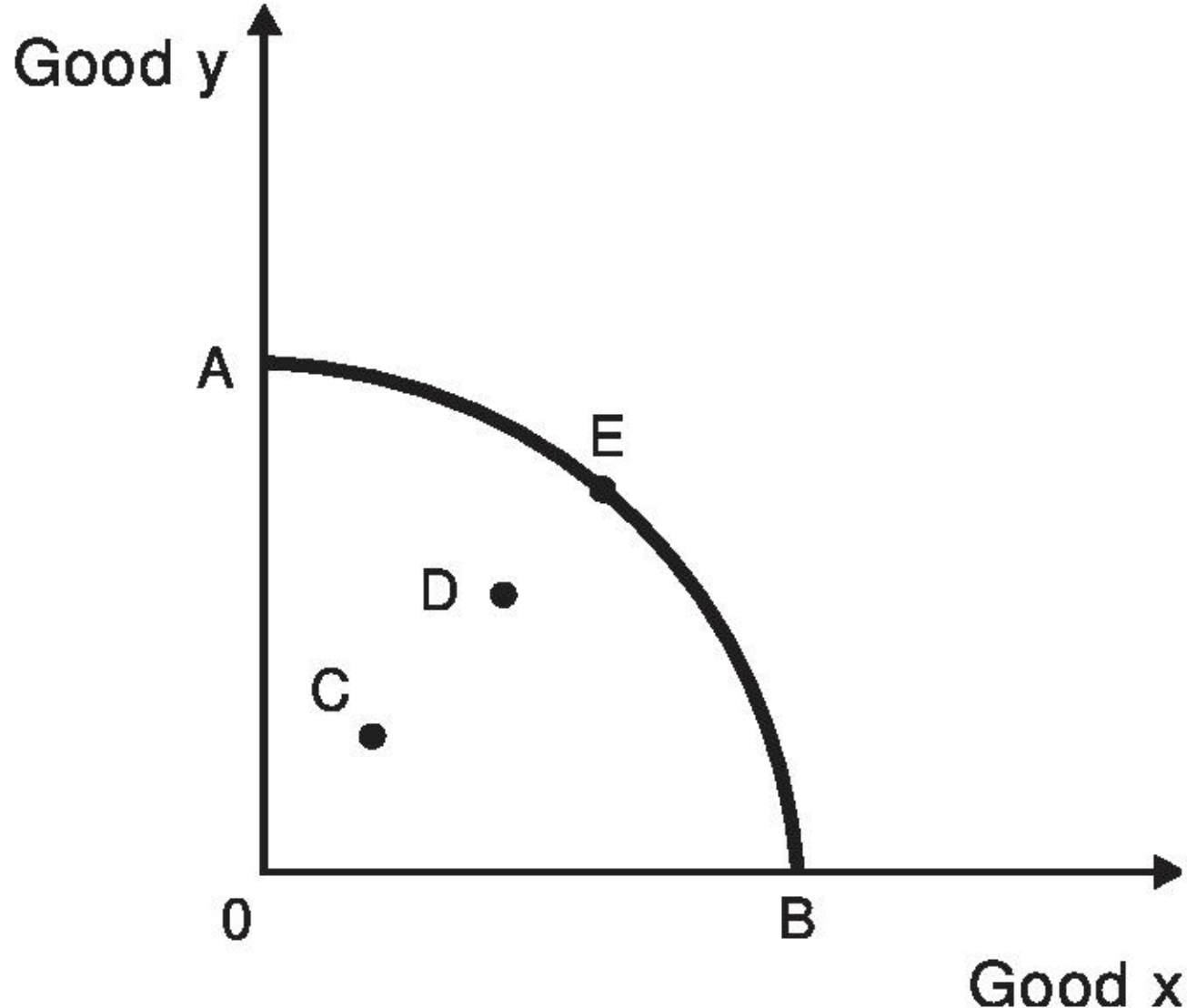
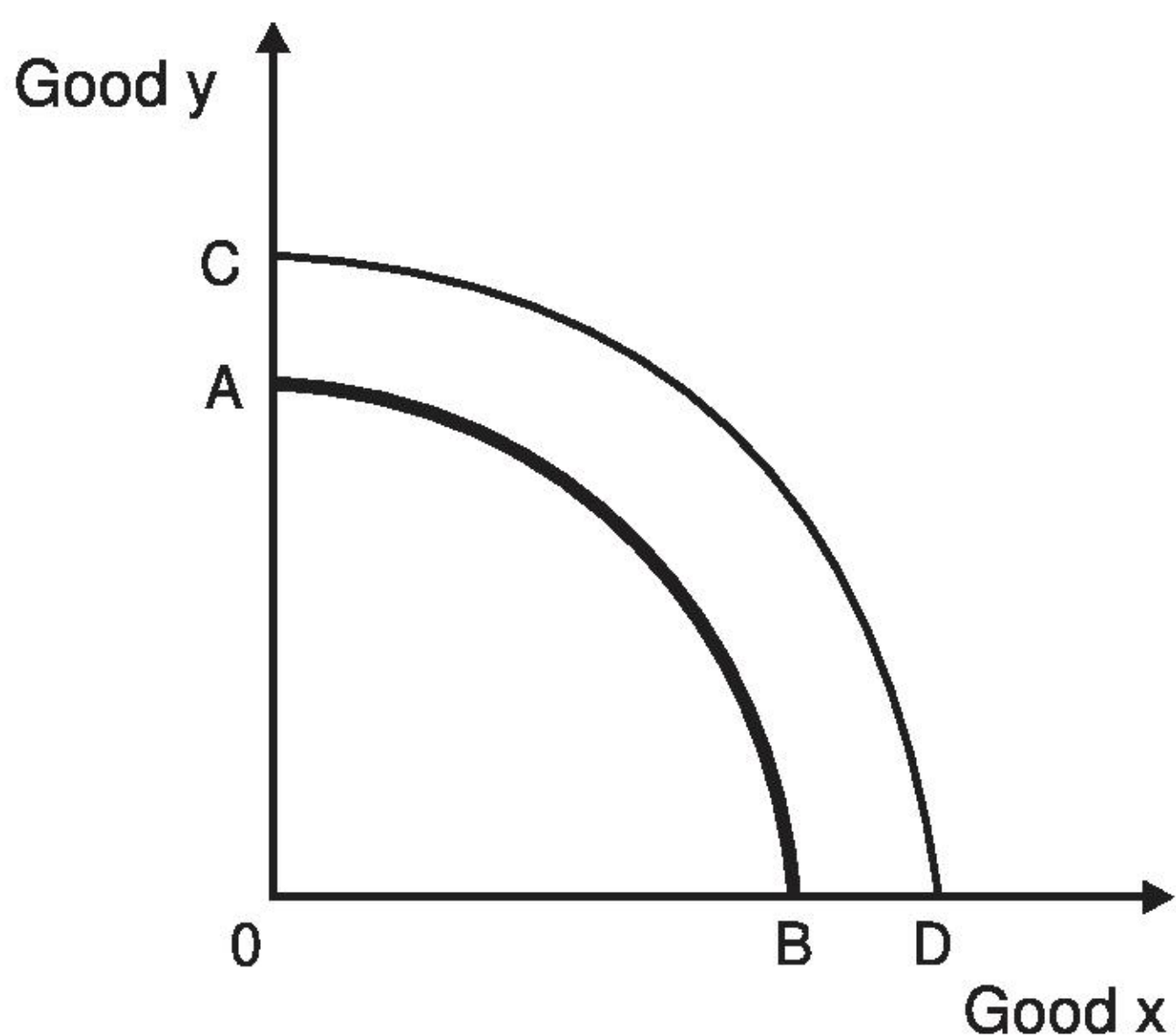
$$\text{Economic Growth Rate} = \frac{\text{Real GDP}_2 - \text{Real GDP}_1}{\text{Real GDP}_1} \times 100$$

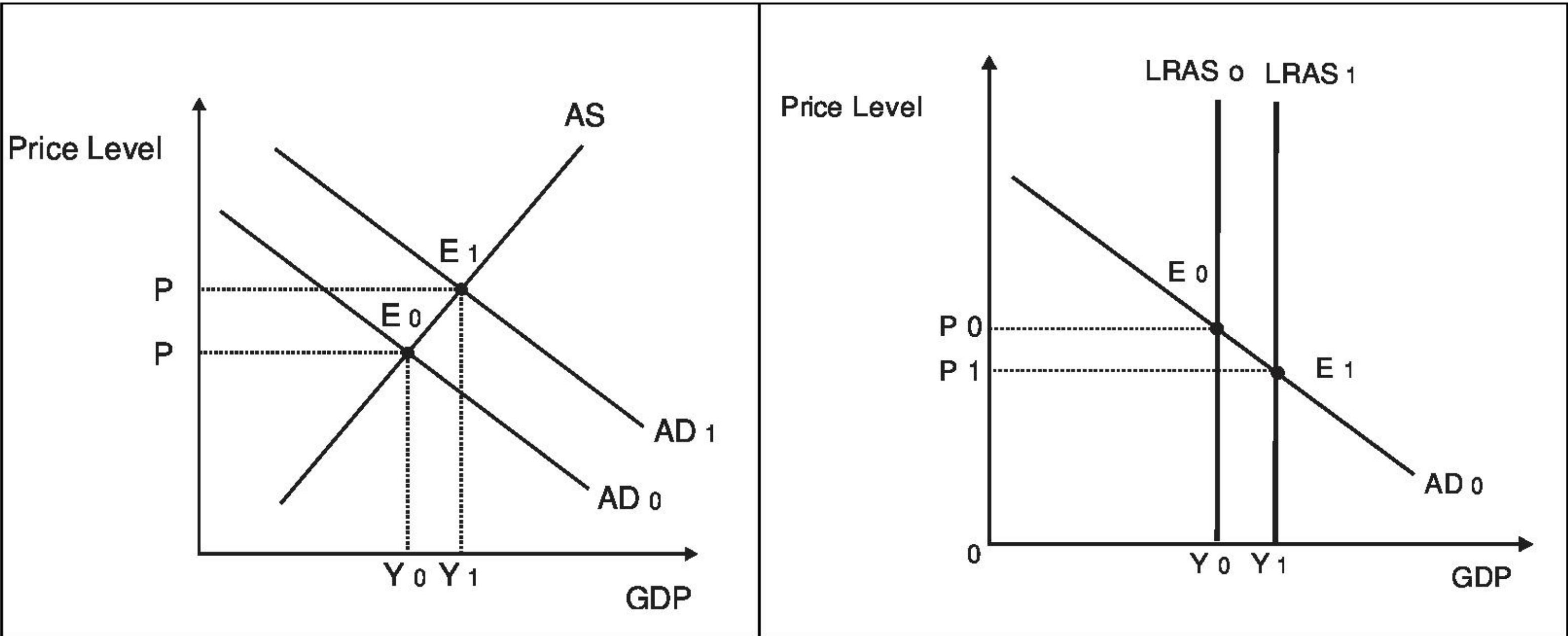
e.g. If a country's GDP rise from \$100b to \$103b, Economy is experiencing 3% rate of Economic growth.

Where:

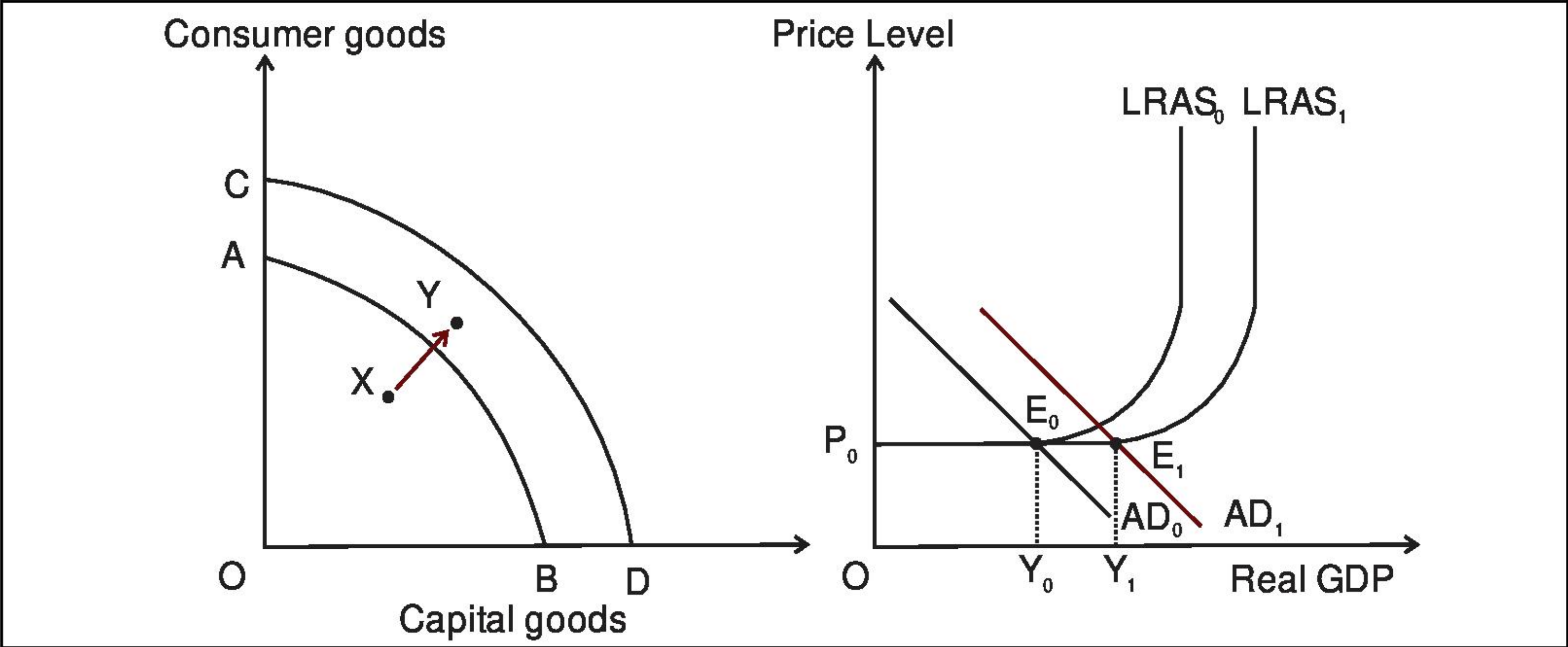
- Gross Domestic Product (GDP) is the monetary value of all final goods and services produced within geographical limits at a country in one year.
- Real GDP means the GDP measured at base year prices or has been adjusted for inflation.
- Potential GDP means maximum a country can produce with its given resources and technology.

Comparison of actual and potential growth

Actual growth	Potential growth
An increase in real GDP	An increase in potential GDP
Movement from inside to on the PPC	Outward shift of whole PPC
By: – employing previously unemployed resources – use of efficient techniques of production – rightward shift of aggregate demand (AD)	By: – increase in quantity of resources – increase in productivity of resources – rightward shift of long-run aggregate supply (LRAS)
	



Both actual and potential growth together



Source / Causes / Policies of Economic growth:

1. A Change in the Quantity of Resources: Land: – Land may increase because of: – Discovery of oil, metal or mineral reserves by active search. – Eroded, water-logged land may be made usable for agricultural purposes (Reclamation of land) Labour: i. Labour may increase by: – Increase in total population, especially in the working population. – Change in structure of population from less dependent population to more working population, even without an increase in total population. – Immigration is greater than emigration. – Increased women-participation in jobs. – Lower school-leaving age. – Higher retirement age. Capital: – Net investment – Rate of return on Capital – Interest rate – Business optimism and pessimism – Government policies about taxation and subsidies – Political stability – Technology – Infrastructure	2. Change in Quality (Productivity) of Resources: Labour: – Wage rate – Education and training – Technology – Work conditions – Length of working hours – Fringe benefits\perks\non-monetary benefit\ non-pecuniary benefits – Bonuses and commissions – Promotional opportunities – Health Capital: – Technology – Skilled labour – Depreciation, etc. Land: – Technology – Skilled labour – Fertility rates, etc. Entrepreneurship: – Communication – Management techniques, etc
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Source / Causes / Policies of Actual growth:

- **Expansionary fiscal policy** → $G \uparrow, T \downarrow \rightarrow AD \uparrow \rightarrow GDP \uparrow \rightarrow \text{Actual Growth} \uparrow$
- **Expansionary monetary policy** → $M_s \uparrow \rightarrow i_r \downarrow \rightarrow C \uparrow, I \uparrow, (X-M) \uparrow \rightarrow AD \uparrow \rightarrow GDP \uparrow \rightarrow \text{Actual Growth} \uparrow$
- **Exchange rate Depreciation** → Exports-Cheaper ,Imports-Expensive → $(X-M) \uparrow$ if $D=\text{Elastic}$ → $AD \uparrow \rightarrow GDP \uparrow \rightarrow \text{Actual Growth} \uparrow$

Relationship between actual growth, potential growth, employment and unemployment:

Actual Growth Rate (AGR)	Potential Growth Rate (PGR)	If	Employment	Unemployment
> 0	0		$\uparrow$	$\downarrow$
0	> 0		Unchanged	$\uparrow$
> 0	> 0	$AGR=PGR$	$\uparrow$	Unchanged
> 0	> 0	$AGR>PGR$	$\uparrow$	$\downarrow$
> 0	> 0	$AGR<PGR$	$\uparrow$	$\uparrow$

Costs and benefits of growth, including using and conserving resources:

Benefits of economic growth	Costs of economic growth
– GDP↑ – Employment↑ (if actual growth is there) – Unemployment↓ (if actual growth is higher than potential growth) – Business confidence ↑ → Investment↑ → Further economic growth – Health facilities↑ – Infant Mortality Rate↓ – Infrastructure↑ – Public Goods↑ – Education Facilities↑ – Literacy Rate↑ – National Debt↓ – Government spending on welfare e.g. pensions, unemployment benefits etc increases (↑) due to increased tax revenue. – Economic Status↑ , international prestige and power ↑ – Dependency over other countries↓ – Standard of living↑ – Current account – improves if import substituting industries grow. – Poverty↓ –	– Opportunity cost of consumer goods in short run but in long run both consumer and capital goods will increase – Causes structural unemployment if there is a shift from primary to secondary or tertiary sector. – Demand –pull inflation↑ – Incomes↑ ⇒ imports↑ ⇒ Balance of current account worsens. – Depletion of non-renewable resources causing more scarcity in future. – If growth is not balanced, it may lead to greater disparity between rich and poor. – Materialism↑ ⇒ greed and selfishness↑ – Unemployment↑ (if potential growth rate is greater than actual growth rate). – Negative Externalities↑ – increased stress and anxiety – increased working hours
Conclusion: So should countries pursue growth? The answer depends on – the costs and benefits involved – the weight people attach to them – the approach required to reconciling opposing views A problem is that the answer involves a judgment about what a 'desirable' society should look like and that depends on your point of view. One thing the government can do is to view the problem as one of constrained optimization. It sets constraints: levels of environmental protection, minimum wages, maximum rates of depletion of non-renewable resources, etc. It then seeks policies that will maximize growth, while keeping within these constraints.	

Using and conserving resources

Arguments of using resources	Arguments of conserving resources
1. Economic growth and employment: Using natural resources now can increase economic growth, at least in the short run. For example, cutting down trees in a rainforest, hunting animals in a wildlife reserve or increasing the amount of gas extracted from gas fields can increase output and create jobs. 2. Exports: It can also increase exports and so improve the current account position on the country's balance of payments. 3. Tax revenue: In addition, the higher output can increase tax revenue that can be used, for instance, to improve the country's infrastructure and education, which can further generate economic growth. 4. Expectation of future demand: If it is thought that demand will fall in the future, there is an argument for using the resources now.	There are, nevertheless, some arguments for conserving resources. 1. Tourism: Maintaining rainforests and wildlife in a reserve may encourage tourists to visit the country. 2. Environment: Maintaining rainforests may also help the environment by absorbing carbon dioxide. 3. Future generations benefits: Conserving resources also enables future generations to benefit from them and may mean that they can be sold at higher prices in the future. 4. Future comparative advantage: If the country does not currently have a comparative advantage in producing the related product but may have in the future. For example, a country may have significant gold deposits but they may currently be too expensive to extract. If a country has serious debt problems, it may feel forced into using its resource now.

There are a number of factors that may influence the decision as to whether to use or conserve resources
Indicators of living standards and economic development

Standard of living:

Standard of Living is the level of happiness people are enjoying in a country or it is the quality of life people enjoy in a country.

Indicator of standard of living:

Standard of living can be measured by monetary and non- monetary indicators.

Monetary indicator	Non-monetary and composite indicators
GDP or National income	– Human Development Index (HDI) – Measure of Economic Welfare (MEW) – Human Poverty Index (HPI), later supplanted by the Multidimensional Poverty Index (MPI) – Kuznets curve

1. GDP (Gross domestic product)

Changes or differences of GDP show the changes or differences of standard of living (SOL). Higher GDP means

- ✓ More goods and services produced
- ✓ More consumption.
- ✓ More employment created.
- ✓ More funds collected in the tax revenues to finance government welfare spending on employment benefits i.e. pensions etc.

Therefore:-

GDP↑	SOL↑
GDP↓	SOL↓

2. HDI (Human Development Index):

Human Development Index (HDI) is a composite measure of living standards that includes national income per head, education, and life expectancy.

It was created by Pakistani economist Mahbub ul Haq, followed by Indian economist Amartya Sen

The HDI is made up of three elements:

- **Life Expectancy Index (LEI)**—this is life expectancy at birth and also shown by infant mortality rate.
- **Education Index (EI)**—this is made up of two elements:
 - Mean Years of Schooling - this is the number of years that a 25 year old person or older has spent in school.
 - Expected Years of Schooling - this is the number of years that a 5 year old child will spend with his/her education in his/her whole life
- **Income Index (II)**—this is now Gross National Income at purchasing power parity per capita

Finally, the HDI is the geometric mean of these indices:

$$HDI = \sqrt[3]{LEI \cdot EI \cdot II}$$

If:

HDI↑ SOL↑
HDI↓ SOL↓

Its value range from 0 to 1 .

Type of countries	HDI
Less Developed Countries	0.1 to 0.5
Middle Income or Developing Countries	0.6 to 0.7
Developed Countries	0.8 to 0.99

3. Net Economic Welfare (NEW) or Measurable Economic Welfare (MEW):

Measurable Economic Welfare (MEW) is a composite measure of living standards that adjusts the GDP for factors that reduce or improve living standards.

The monetary value of all those factors which increase S.O.L will be added to real GDP per capita and all those which reduce S.O.L will be deducted from real GDP per capita to find the NEW or MEW.

$$NEW \text{ or } MEW = \text{Real GDP per capita} + \text{Factor of S.O.L}\uparrow - \text{Factors of S.O.L}\downarrow$$

If:

MEW↑ SOL↑
MEW↓ SOL↓

4. Human Poverty Index (HPI)

This was developed in 2010 by the Oxford Poverty and Human Development Initiative (OPHDI) and the United Nations Development Program (UNDP). It measures indicators of living standards (cooking fuel sanitation, safe drinking water, floor space, and assets), education (years of schooling and school attendance), and health (child mortality and nourishment).

Components of HPI:

Category	living standards	education	health
Indicators	– cooking – fuel – sanitation – safe drinking water – floor space – assets	– years of schooling – school attendance	– child mortality – nourishment
Cumulative weighting	33 %	33 %	33 %

The six indicators of living standards are given a total weighting of 33%, the two indicators of education a total weighting of 33% and similarly the two indicators of health have a weighting of 33%. This means a family would be regarded as poor if it has lost a child and has another child who is not attending school.

5. Multidimensional Poverty Index (MPI)

Multidimensional Poverty Index (MPI) is a composite measure of deprivation in terms of the proportion of households that lack the requirements for a reasonable standard of living.

A household is considered to be **multi-dimensionally poor** if it is deprived in at least 33% of the weighted indicators in the HPI.

National Income statistics and standard of living

National Income statistics can be used to measure SOL of citizens of a nation:

- At a point in time
- Over the period of time
- To compare between the countries

Higher national income means more goods and services people are producing and consuming, higher incomes they are earning and consequently they will be happier than the citizens of a country with lower national income and goods and services consumed. Therefore national income figures act as an indicator standard of living of country.

However:

National income or GDP is not a reliable measure of standard of living because:

- GDP is not calculated accurately.
- GDP does not account for all factors that determine standard of living.

GDP figures are not accurately calculated:

There is no authenticity of the GDP data. The data could be overstated, understated or just miscalculated because of following reasons:

1. Double counting problem:

Means counting value of a product more than once which leads to overstatement of GDP.

2. Black Markets:

GDP does not measure certain aspects of an economy which result in false figures. One of the aspects are illegal activities; the GDP does not measure illegal activities. Many forms of illegal gambling, prostitution, and drug trade come in this category. To gain accurate measure of the total demand for factors of production in the economy, of total marketable output, or of total incomes generated, we should include these activities. The omission of illegal activities is no trivial matter. The drug trade alone is a multi-billion pound business

3. False information:

Business does not show actual profit or actual sales data to evade taxes. One example of this is the carpenter who repairs a leak in your roof and takes payment in cash to avoid taxation.

4. Inaccessible areas:

Under developed areas.

5. Unrecorded transactions:

No record for the transactions of a small shopkeeper.

6. Do it yourself activities or Non-marketed activities:

Activities people do for themselves. Non-marketed activities are another factor for unreliability of National income statistics or GDP. If income owners hire a firm to do some landscaping, the value of the landscaping enters into GDP; if they do the landscaping themselves, the value of the landscaping is omitted from the GDP. Another example can be a carpenter making furniture for himself or his family. Other non-marketed activities include the services of those who do housework at home, and do it

yourself activity, and voluntary work. Such as conversing for a political party or helping others in a volunteer day-care centre.

7. Domestic activities:

Child-rearing by mothers, etc.

GDP does not account for all factors that determine standard of living:

1. Size or change in size of population:

$$\text{GDP per capita} = \frac{\text{GDP}}{\text{Population}}$$

For example there are two countries:

	Country X	Country Y
Real GDP	\$200 m	\$400 m
Population	1 m	\$10 m
Real GDP per capita	$200/1 = \$200$	$400/10 = \$40$
Standard of living	S.O.L↑	S.O.L↓

Therefore GDP per capita is a better measure than only using GDP.

2. Inflation rate:

If inflation↑ $\Rightarrow$ price level↑ $\Rightarrow$ GDP = $\sum PQ \Rightarrow$ Nominal GDP↑ But S.O.L will fall if real GDP stays the same and only price level rises.

Therefore GDP per capita is better measure.

3. Leisure hours or working hours:

One important non-marketed activity is leisure, itself. Until recently, one of the most important ways in which economic growth benefited people was by permitting increased amounts of time off work. Because the time-off is not marketed, its value does not show up in measures of National Income or GDP.

4. Negative externalities:

If GDP↑ and negative externalities↑ $\Rightarrow$ S.O.L may fall.

To illustrate this, consider when a coal-fired electricity generator emits Sulphur dioxide into the atmosphere, leading to acid rain and environmental damage; the value of electricity sold is included as part of the GDP, but the damage is not deducted. A country with a high national income or GDP but increasing amount of pollution will not be graded as a country where standard of living is high.

5. Composition of GDP:

If the GDP is mostly composed of capital and defense goods and less of consumer goods, as is the case with Russia $\Rightarrow$ S.O.L poor. If the GDP is composed of consumer goods more than capital goods $\Rightarrow$ S.O.L Better.

6. Distribution of Income:

If there is even distribution of income in a country the S.O.L would be higher and if there is unequal distribution of income in country y S.O.L would be lower.

7. Quality of goods and services:

Quality↑ $\Rightarrow$ S.O.L↑

Quality↓ $\Rightarrow$ S.O.L↓

8. Taxation:

T↑ $\Rightarrow$ Yd↓ $\Rightarrow$ S.O.L↓

9. Government welfare spending: i.e. pensions, unemployment benefits, scholarships etc.

welfare spending↑ $\Rightarrow$ S.O.L↑

welfare spending↓ $\Rightarrow$ S.O.L↓

10. Literacy Rate: Literacy rate↑ $\Rightarrow$ S.O.L↑

A country with a high illiteracy rate will not be marked as a country having good standards of living as compared to others

11. Health facilities: Health facilities $\uparrow \Rightarrow$ S.O.L $\uparrow$

Health standards must also be taken into account. An area neglected by health experts, doctors and thus unfit for living will cost a negative shadow on the standard of living of that country.

12. Infrastructures: Good infrastructure $\Rightarrow$ S.O.L $\uparrow$

Provision essential public services are also known as important factor to look at. Housing facilities must also be taken into account. Appropriate housing facilities under hygiene conditions contribute positively to the standard of living of the country. Other factors like the infrastructure, communications, transportation links must also be taken into account.

13. Law and Order: Law and order $\uparrow \Rightarrow$ S.O.L $\uparrow$ **14. Freedom of choice** $\uparrow \Rightarrow$ S.O.L $\uparrow$ **15. Political freedom** $\uparrow \Rightarrow$ S.O.L $\uparrow$ **16. Religious freedom** $\uparrow \Rightarrow$ S.O.L $\uparrow$ **17. Differences of exchange rates:**

GDP in each country is measured in local currency. So, to make comparisons, we have to convert different countries GDPs into the same currency. To do this an exchange rate has to be used. This is problematic as exchange rates fluctuate. Thus this results in exchange rates being unreliable and hence the figures calculated are not actual figures. To avoid the comparison being distorted by exchange rate changes, economists usually adjust exchange rate to take into account their purchasing power parties. Purchasing power parity (PPP) is a way of comparing international living standards by using an exchange rate based on the amount of each currency needed to purchase the same basket of goods and services

Evaluation of Alternative Measures Standard of Living:**1. Measurable Economic Welfare (MEW):****Advantages:**

- It is a composite measure and it includes both monetary and non-monetary factors that determine standard of living in a country.

Disadvantages:

- Value of black market, unrecorded transactions, false information will be estimated which can never be accurate. Pollution, noise, leisure, freedom, etc., cannot be calculated and then expressed in monetary terms. Therefore NEW or MEW will be of normative measure and more unreliable than GDP.

2. Human Development Index (HDI):**Advantages:**

- HDI not only takes Real GDP per capita but also other factor i.e. infant mortality rate and adult literacy rate which provides an idea of working hours, health facilities, average pay, externalities, etc., and therefore provides a better picture of standard of living.

Disadvantages:

- HDI is still based upon the value of Real GDP per capita and all those problems faced in calculation of GDP will also exist in HDI measures.
- HDI includes some non-monetary factors but does not include all those factors that influence standard of living in a country.
- HDI data is not frequently available as GDP figures.

Economic Development**Definition:**

Economic development is an increase in welfare and the quality of life.

Economic growth	Vs.	Economic Development
- When real or potential GDP increases - Only material well being		- When a country improves the economic welfare of its population - Overall improvement in standard of living

Types of Countries

- Developed Country** is one with high gross domestic product (GDP) per capita, high level of industrialization, strong widespread infrastructure and high Human Development Index (HDI).
- Developing Country** is one with low gross domestic product (GDP) per capita, low level of industrialization, poor infrastructure and lower Human Development Index (HDI).

However, there are no universal, agreed-upon criteria for what makes a country developing versus developed, and which countries fit these two categories, although there are general reference points such as the size of a nation's GDP compared to other nations.

Classification of countries:

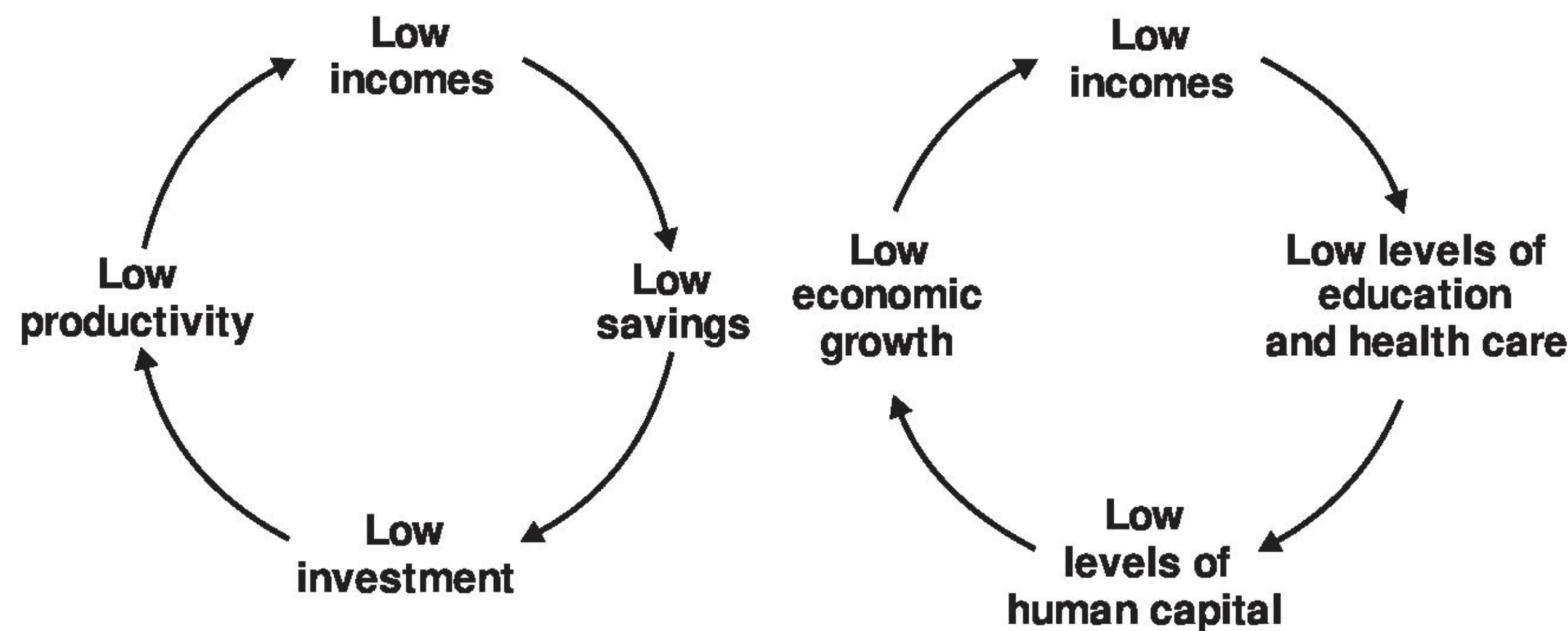
Every country has its special problems and rates of progress vary widely between different countries but there are some features which are common to the majority of the less developed countries. These include the following:

S #	Indicators / Characteristics	Less Developed Country	Developed Country
1	Birth rate	High	Low
2	Infant mortality	High	Low
3	Death Rate	High	Low
4	Life Expectancy	50 – 70 years	70 years and above
5	Population Growth	Usually 2 – 3 %	Around 0.6 – 1 %
6	Urban Population	60 – 70 %	95 – 100 %
7	Rate of Population Growth	High	Low
8	Dependency Ratio	High	Low
9	Geographical Distribution of Population	More in rural areas	More in urban areas
10	Population Pyramids	Expanding	Stationary or Contracting
11	GNP Per Capita	Low	High
12	GNP Growth Rate	Usually fluctuating around 1 percent or even negative	Usually growing around 3%.
13	Income Inequalities	High	Low
14	Quality Natural Resources	Low	High
15	Industrial Infrastructure	Low	High
16	Occupational Distribution of Population	More in primary sector	More in tertiary sector
17	Concentration on Narrow range of Exports	Yes	No
18	Quality of Capital Stock Investment	Low	High
19	Quality of Human Capital	Low	High
20	Unemployment rate	High	Low
21	Inflation rate	High, around 4–10 %	Well-controlled , mild inflation, around 2 %
22	level of savings	Low	High
23	Current a/c Balance	Usually deficit and greater proportion of GDP	May be deficit but lesser proportion of GDP usually
24	Foreign Reserves	Low	High
25	National debt	High	Low
26	No. of People per doctor	2000 – 7000	Less than 500
27	Literacy rate	30 – 70 %	95 – 100 %
28	Negative Externalities	High	Low
29	Political Independence	Low	High

Poverty cycles: the links between, for example, low income, low savings, low investment, and low productivity.

Development traps: restrictions on the growth of developing economies that arise from low levels of savings and investment.

Emerging economies: economies with a rapid growth rate and that provide good investment opportunities.



Methods of Classification of countries

1. According to levels of income:

Criteria: GDP per head

Classification:

Income group		US \$	Developing economies	Emerging economies	Developed economies
Lower Income		1035	✓		
Middle Income	Lower Middle	1036 – 4085	✓	✓	
	Upper Middle	4086 – 12615			
High Income		12616 – higher		✓	✓

2. According to levels of external indebtedness:

Criteria:

1. ratio of debt service to GNP
2. ratio of debt service to exports

Classification:

	severely (or highly) indebted	moderately indebted	less indebted
ratio of debt service to GNP	Exceeds 80 %	Exceeds 60 %	Less than 60 %
ratio of debt service to exports	Exceeds 220 %	Exceeds 80 %	Less than 60 %

The presence of debt on diverts resources to debt repayment and away from spending on health and education, infrastructure and poverty relief and therefore external indebtedness is an obstacle to economic development.

3. According to economic structure:

Criteria:

1. Primary sector: industries involved in farming and extracting natural resources.
2. Secondary sector: industries that manufacture products.

3. Tertiary sector: industries that produce services.
4. Quaternary sector: industries involved in providing knowledge-based services.

Classification:

Sector	Developing economies	Emerging economies	Developed economies
Primary sector as % of GDP	Greatest	Less	Least
Secondary sector as % of GDP	Less	Greatest	Less
Tertiary sector as % of GDP	Least	Less	Greatest

4. According to population growth and population structure:

- Criteria:**
1. Population growth means percentage increase in size of population in a country which depends upon birth rate, death rate, and net migration.
 2. Age structure of population.
 3. Size of population with respect to resources

Malthusian Theory:

Reverend Thomas Malthus, in 1798, gave a theory that population grows in geometric progression whereas the quantity of food grows in arithmetic progression.

Malthusian theory has a pessimistic view of population growth. The theory suggests that a country's population has a tendency to grow in **geometric progression** (i.e., 1, 2, 4, 8, 16, etc.) over time, while food supplies have a tendency to increase only in **arithmetic progression** (i.e., 1, 2, 3, 4, 5, etc.).

He thought there was this tendency for **population growth to outstrip food production** because the quantity of land was in relatively fixed supply (the fixed factor) and, as increasing quantities of labour (the variable factor) were added in production, diminishing returns would set in.

Malthus thought there were checks that kept population to a level sustainable by the available food supplies. He divided these checks into positive and preventative checks. **Positive checks** increase the death rate and include epidemics, diseases and war. **Preventative checks** reduce the birth rate and include delaying marriage and contraception.

Limitations of Malthusian Theory:

The Malthusian theory has, however, been challenged on a number of grounds. The main weakness is that it fails to recognize the impact of changes in technology upon food production and distribution. Malthus could not have foreseen the huge changes that were to occur in agricultural production, such as **mechanization**, the application of more effective **fertilizers** and **insecticides** and the introduction of new **high-yield seeds** and **genetically modified crops**. These changes mean that food supplies have increased to a level capable of supporting a much higher level of world population.

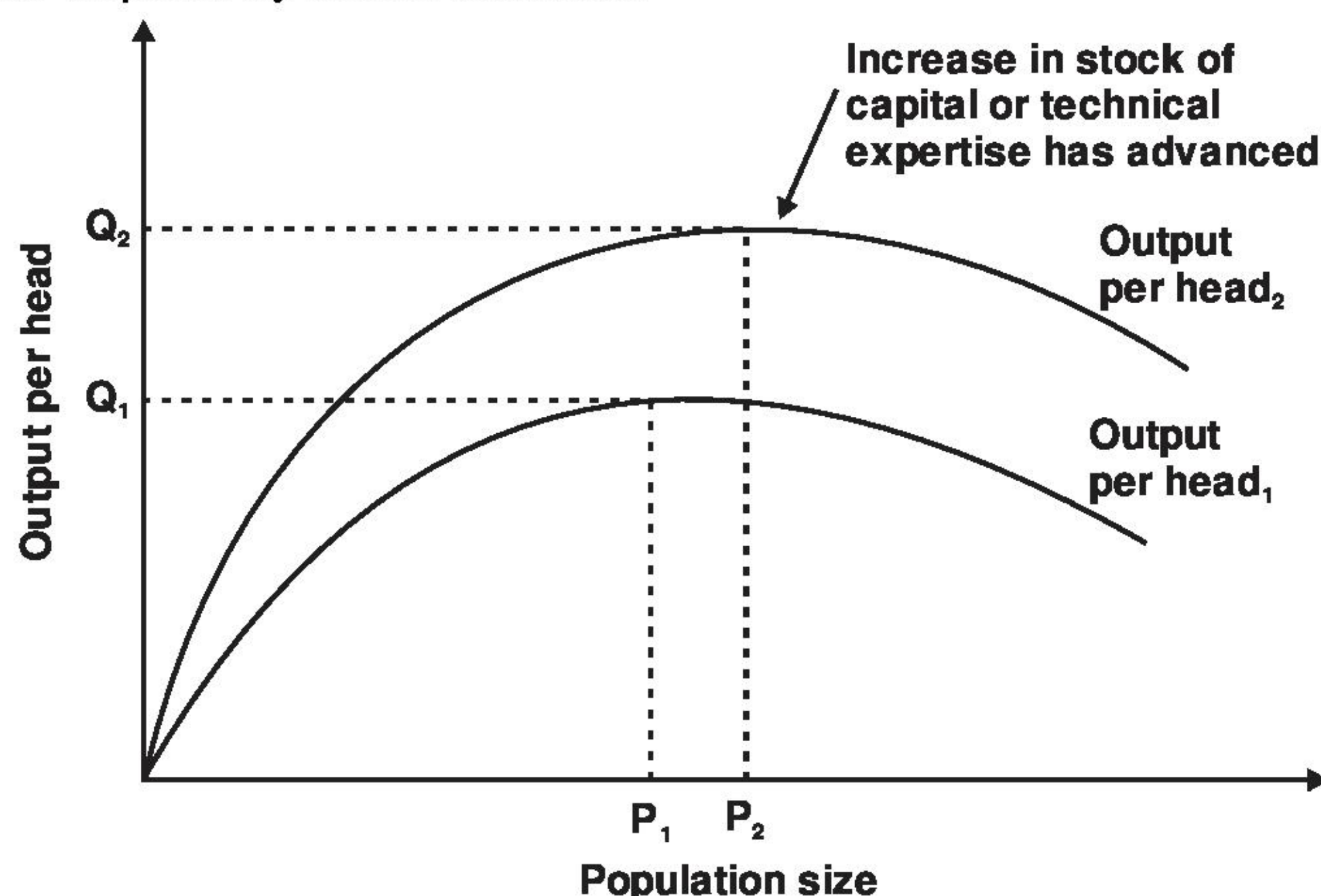
Nevertheless, malnourishment and famine remain problems in some developing economies. These problems arise from a range of factors, including uneven distribution of resources in the world, poor management of agricultural sectors, vulnerability to sudden supply shocks, such as floods and drought, and an inability to respond to these.

Size of Population:

In assessing the effects of differences in population size, economists make use of the concept of optimum population, under population and overpopulation.

- **Optimum population:**
The optimum population is said to exist when output per head is the greatest, given existing quantities of the other factors of production and the current state of technical knowledge.
- **Under population:**
If population is below the optimum level, it can be described as **under populated**. As the population grows it can make better use of the stock of the other factors of production such as land and capital. This is because increasing returns are enjoyed as the population grows.
- **Over population:**
When the population is beyond the optimum level and decreasing returns are being experienced, it is said to be **overpopulated**.

In the real world, the situation is more dynamic and the state of technical knowledge is constantly improving. The quantity of the other factors also continuously changes so that the optimum population for a country is not a fixed entity. In addition, the criteria for assessing under- or overpopulation are purely economic and may be disputed by conservationists.



Age Structure:

The higher birth rate of developing economies results in a relatively low average age of population. This creates a high proportion of dependent, non-productive members of the population. They are said to have very high dependency ratios. This means that a proportionally small working population has to produce enough goods and services to sustain not only themselves but also a large number of young people who are economically dependent upon them.

Developed economies also face a range of population problems. The most common one is an **ageing population**. This arises from a decreasing birth rate and a decreasing death rate. Again dependency ratios are high, this time because there is a high proportion of old people who are reliant upon the productive proportion of the population for support. With people living longer, the cost of health care and pensions have been rising. To reduce the cost of pensions, a number of governments of developed countries have increased the retirement age.

Dependency ratio: the proportion of the economically inactive to the labour force.

Classification according to income distribution

It is a characteristic of some developing countries that income is unevenly distributed. This is partly because income-generating assets, especially **land, are owned by the few**. As a result, there are great extremes of rich and poor.

Income is particularly unevenly distributed in Latin America and in South Africa and Lesotho. Income is relatively evenly distributed in Scandinavian European economies.

The **transition** of Eastern European countries, including Poland and Russia, from centrally planned to market economies has increased inequality as a small number of people have benefited enormously from the new opportunities that have been forthcoming. Two exceptions are Slovenia and the Czech Republic, which have two of the least uneven distributions of national income in Europe.

Classification according to external trade

In the case of a number of developing economies, **primary** products account for most of the **export** revenue earned.

Impact of frequent and large fluctuations in price:

This makes them vulnerable in their trading relations because demand and especially supply can change significantly. For example, demand may decrease due to a health scare and supply may increase due to a good harvest. These changes mean that the market for primary products is subject to frequent and large **fluctuations in price**.

The impact of different income elasticities:

In addition, the demand for many primary products, especially food, is income inelastic. This means that as world income rises there is little impact upon the demand for primary products. In contrast, demand for manufactured goods is income elastic. This means that primary goods tend to become relatively cheaper than manufactured goods. As a result, over time there is a tendency for the terms of trade of primary goods to decline relative to manufactured goods. This tendency is known as the **Prebisch-Singer hypothesis**—a theory that suggests that the terms of trade tend to move against developing economies so that developing economies have to export more to gain a given quantity of imports.

Those developing economies that are dependent upon agricultural products may receive relatively low prices for their exports while having to pay relatively high prices for their imports.

Impact of range of products:

Developed economies tend to export mainly manufactured goods and services. They also tend to export a **wide range** of products. Some developing economies, in contrast, rely heavily on exporting a **narrow range** of products. Therefore changes in world demand makes developing economies more vulnerable.

Classification according to urbanization:

Developing economies tend to have a relatively high proportion of their populations living in rural areas but also rapid rates of rural-urban migration. This migration can put pressure on the infrastructure, housing and schools in urban areas. Most developed economies already have the majority of their populations living in urban areas. As a result, there is relatively little growth in the urban population of developed economies.

For example, in 2013, 83% of the population of the USA was living in urban areas and the rate of rural-urban migration between 2003 and 2013 was 1.3% per year. In contrast, 24.2% of the population of Burkina Faso lived in urban areas in the same year and the rate of rural-urban migration was 7.3%.

Emerging economies:

In 2014 emerging economies accounted for half of global GDP compared to less than a third in 1990. The most significant growth was in four of the largest emerging economies: Brazil, Russia, India and China. Jim O'Neill, an analyst working at the investment bank Goldman Sachs, labelled these four economies in 2001 as the BRICs. He identified these four economies as the ones with the greatest potential for economic growth and the ones providing the best opportunities for investment.

The governments of the four countries now meet on a regular basis and they were joined in 2010 by the government of South Africa.

Sustainable development:

Sustainable development means development that ensures that the needs of the present generation can be met without compromising the well-being of future generations. Pursuing sustainable development ensures that economic growth improves living standards and the quality of life not only in the present but also for the future. Sustainable economic development can be achieved by: More use could be made of renewable resources than non-renewable resources and improvements in technology to both increase output and reduce pollution. To achieve sustainable economic development requires a balance among economic, social and environment objectives.

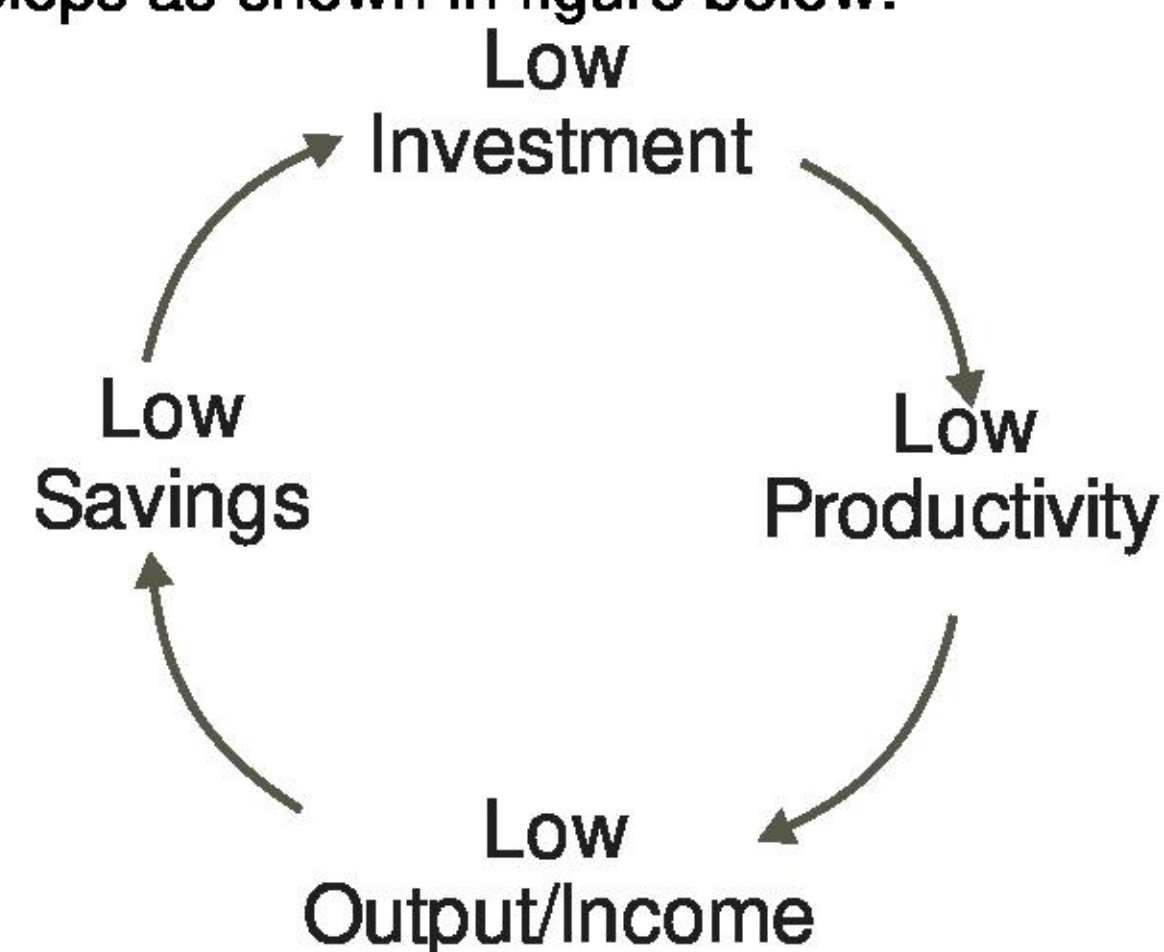
Economic objectives require a better use of resources. To be sustainable, growth should ensure that sufficient resources are available to invest in human capital as well as physical capital. Education and training programs are central to this requirement.

1. **Social objectives** focus on the distribution of the benefits of growth. Food, housing, health care and secondary education are essential if people's lives are to be productive. A sustainable approach involves an education system that gives girls the same opportunities as boys, is serious about reducing fertility rates, controlling the spread of HIV/AIDS and providing for the elderly.
2. **Environmental objectives** require the responsible use of natural resources. This means that mineral extraction and forest depletion especially should be done in such a way that the benefits are not just short-term. Many people in developing countries lack clean water and proper sanitation, a reason why charities such as UNICEF invest heavily in these areas.

Obstacles to Economic Development

Achieving economic development is not easy. There are a number of factors that make it difficult for developing countries to improve the economic welfare of their citizens, including the following:

1. **Poor natural resources.** This results in low productivity in the primary sector. However, while good natural resources are beneficial they are not a necessary requirement for development. For example, Israel has relatively poor natural resources but is a rich country.
2. **Lack of investment.** This is thought to be a significant factor. A country that has low levels of investment is likely to have low output and low productivity. Low output will mean low incomes. When incomes are low it is difficult for people to save. So investment continues to be low. A **vicious circle of poverty** or **Poverty Trap** develops as shown in figure below:



It can be difficult for a country to break out of this circle without outside help. This is because persuading or forcing people, through taxation, to save more may result in them experiencing albeit possibly, for the short-run, real deprivation.

3. **Lack of a developed financial market.** A shortage in terms of number and range of financial institutions tends to discourage saving and makes it more difficult to channel funds from savers to borrowers.
4. **Lack of infrastructure.** Lack of, or poor quality of, for example roads, railways and utility services, will increase firms' costs and discourage foreign direct investment (FDI).
5. **Lack of investment in human capital.** As with lack of physical investment, this can arise because of low incomes and will again reduce productivity and incomes. In addition, it will make it more difficult for the country to take advantage of foreign direct investment.
6. **High population growth.** A country with a continually high birth rate will have to devote resources which could have been used to increase productive potential to provide hospitals and schools to cater for the children.
7. **Disadvantages in international trade.** Developing countries tend to concentrate on exporting primary products.
 - Primary products have income inelastic demand so that as world income rises developing countries see only a small rise in demand for their products.
 - Supply of primary products is volatile due to changes in weather conditions and, in the case of agricultural products, diseases. This volatility results in fluctuations in export earnings.
 - Concentration on a narrow range of exports makes the countries vulnerable to changes in market conditions.
 - Developing countries also experienced problems in gaining access for the markets of the industrial countries because of the tariffs and subsidies the countries use to protect their own industries, including agriculture.
8. **Underdeveloped primary sector**

Majority of the people are farmers, yet this sector is not fully developed. Technology level is low and farmers are unaware of the more efficient methods of farming. As the population grows, land holdings are divided and subdivided as they are passed from generation to generation. The average size of plots get smaller and smaller.
9. **Rural urban migration**

The people in the rural areas move to urban areas, trying to search for a new life. However, with the low educational qualification and hardly any skill, they are likely to end up being unemployed. The problem of housing, and slums will begin to develop.
10. **Inflation**

The main cause is mainly due to structural rigidities. Supply cannot expand sufficiently in response to demand stimuli. The government usually blames money supply as the main culprits.
11. **Huge foreign debt**

This would drain the economy's reserves. Huge foreign debt has to be survived at the expense of economic development. In addition, taxes may be raised to pump in more revenue for the government.

External debt can be a major obstacle to future economic development. As mentioned earlier, repaying the debt can divert funds away from improving the welfare of the population and increasing the economy's growth potential.

A high level of external debt can make it difficult and expensive for a developing economy to attract more funds for development. Some governments reduce their ability to borrow more in the future by defaulting on past loans. These governments may consider that, for instance, avoiding cutting spending on education and health care may be more important than meeting their obligations to repay loans.

12. Dependency

Some economists suggest that the problems of developing economies arise from their continued dependence on developed economies.

- International trade can be dominated by developed economies with terms of trade moving in their favor, as a result of them exercising more power in trade negotiations, and with the developing economies being forced to concentrate on primary products.
- Some forms of aid can result in developing economies becoming increasingly indebted. In some cases developing economies transfer more money to developed economies in terms of interest on past loans, even if given on favorable terms, than they are currently receiving in aid.
- Advice given and policies suggested or imposed on developing economies by international organizations, such as the International Monetary Fund (IMF) and the World Bank, are not always suitable given the conditions in the developing economies. For example, advising an economy to use capital intensive methods when it has a shortage of capital but an abundance of labour may not be the best advice.
- In addition, requiring a government to cut spending on primary education to cut a budget deficit may harm an economy's development and longer-term economic growth prospects.

13. The impact of corruption and legal framework in an economy:

An inadequately developed legal framework can encourage corruption. If firms and governments are corrupt, funds that could have been used for development may be diverted to the owners of the firms and to government officials.

For example, a lack of property rights may result in firms polluting local rivers without any penalties. Corrupt government officials may steal money given as aid or raised in tax revenue. They may also be bribed to give contracts to certain firms.

Policy Approaches for Economic Development

A government can adopt a number of policies to promote development.

1. Increasing agricultural productivity

The role of agriculture in improving economic development has tended to be overlooked in the past. This was, in part, because of the income inelastic demand for food and the volatility of supply, discussed above. However, increasing productivity in agriculture, as part of a development strategy, can stimulate demand for manufactured products, for example tractors, increase the nutrition of the population, reduce costs to any food processing and other firms in the country, for example textiles and tobacco firms, and increase export earnings, some of which could be spent on imported foreign capital goods.

2. Export-oriented industrialization

Export-oriented industrialization (EOI) involves an outward orientation of development, opening up the country to international trade by removing trade barriers. However, prior to this, local industries are to be built up behind tariff walls.

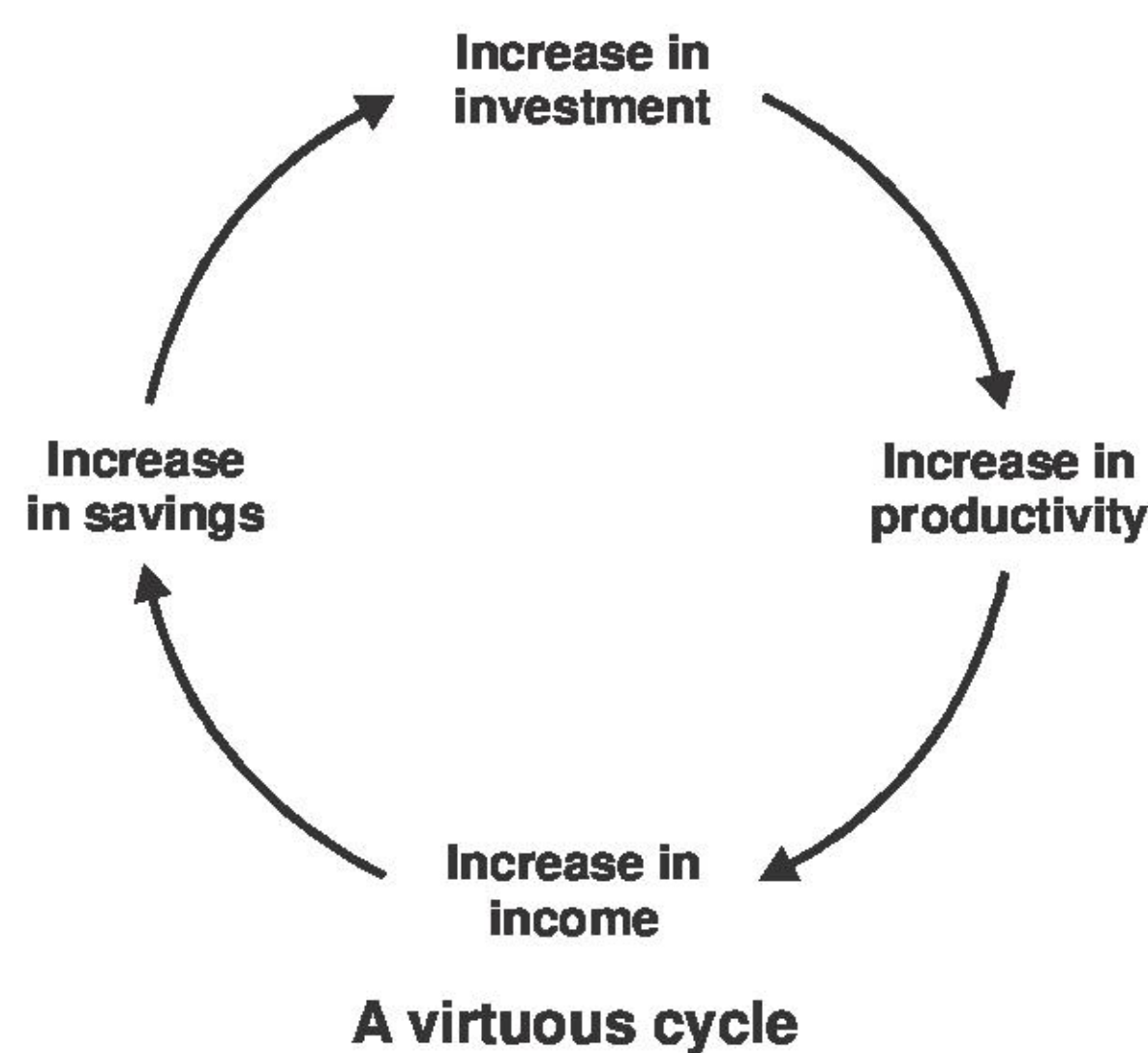
3. Import-substituting industrialization

Import-substituting industrialization (ISI) involves processing infant industries by means of tariffs until they have built up a comparative advantage. In this case imports are gradually replaced by domestically produced products and a more diversified industrial structure is built up.

4. Increasing Investment

Investment may not be easy for some developing economies to achieve because of the lack of savings and the lack of financial institutions to channel those savings that do exist from lenders to entrepreneurs wanting to establish new firms and to expand the output of existing firms, there may also be a shortage of entrepreneurs.

If, however, investment can be encouraged, a virtuous cycle may be created as shown in Figure below.



Virtuous cycle: the links between, for example, an increase in investment, increase in productivity, increase in income and increase in saving.

One of the reasons China achieved rapid economic growth in the 1990s and first decade of the twenty-first century is, in part, because of high levels of investment. The country already had high levels of savings but over these two decades it also developed its range and sophistication of financial institutions.

5. Attracting foreign direct investment of Multinational Corporations

One way that developing economies can achieve a rise in investment is to attract multinational companies. A multinational corporation (MNC) is defined as a firm that operates in more than one country. In other words, it is a business with a parent company based in one country but with production or service operations in at least one other country. The largest MNCs - such as the Coca-Cola Corporation, Ford, Hilton Hotels, Nestle, McDonalds, Tata, Toyota and so on - are global operations, with manufacturing and retail outlets in many countries of the world.

Through their activities, MNCs provide foreign direct investment (FDI) to the economies in which they operate. Foreign direct investment (FDI) means the setting up of production units or the purchase of existing production units in other countries. FDI, therefore, involves capital flows between countries. It should not be confused with portfolio investment, which is the purchase of shares by foreign investors in businesses that are located in another country.

The presence of multinational companies (MNCs) may bring a number of benefits to a developing country.

Advantages of MNCs:

- May bring in **up-to-date technology** which local firms can copy.
- **Modern management techniques and new ideas** which local firms can copy.
- **Provide employment** however MNCs are mainly high technology, capital-intensive firms, although of course this means that the number of jobs they create are not that high.
- **Training** of domestic workers
- Contribute to the country's **infrastructure**.
- Will improve balance of capital and financial account of host country when they bring **capital and financial inflows**.
- May improve balance of current account if MNCs **export to neighboring countries**.
- **May improve balance of current account** as many products are no longer imported because they are now produced by the MNCs.

Disadvantages of MNCs:

- MNCs may **not create higher employment** and higher incomes if they replace domestic firms
- they may deplete non-renewable resources
- may create **pollution**
- They may contribute to economic growth but **not to sustainable** economic development.
- They may also send most of their **profits back to their home countries** and may worsen current account balance
- **Imports of raw materials** and services purchased by the MNCs from abroad will worsen current account balance
- **may employ foreign rather than home labour**, especially in the top-paid jobs and will also worsen current account balance
- Their mobility and considerable economic powers mean that they often **negotiate favorable tax breaks and exemption** from some environmental laws
- Some of the products they sell may not improve people's living standards. For instance, faced with declining sales in their home markets, a number of European and US **tobacco firms** are now putting considerable time and effort into marketing their cigarettes in Asian and African economies.

6. Developing the tourist market

Tourism is the fastest growing industry in the world. It also benefits from having high-income elasticity of demand. However, tourism tends to create low income and low skilled jobs. There are also a number of potential disadvantages of building up a tourist industry. It can damage the environment, result in clashes with the native culture and can displace local industries.

7. Population control

A high birth rate results in a high dependency ratio (i.e., a high proportion of non-workers dependent on the labour force). Not only do the children have to be supported, but so do the mothers (or, less commonly in developing countries, fathers) for the time they are raising their children on a full-time basis. Also as noted above, it creates a high need for social capital. However, population control programmers, including the provision of information on contraceptive methods and incentives to limit family size, are not always easy to operate because they frequently come up against opposition on the grounds of religion and culture.

8. Applying for aid and external loan

Foreign aid (grants, loans at concessionary rates and the supply of, for example, educational, technical services) can assist development if it is used in high productive projects which take into account the resource endowment of the country. Foreign aid can be in different forms and with different conditions.

Methods or forms of foreign aid:

- a grant
- a loan at reduced interest rate
- technical assistance
- direct provision of goods and services.

Types of foreign aid:

- **Tied aid:** is aid that comes with conditions. For example, a grant may be given provided that it is spent on buying products from the donor country.
- **Untied aid:** is aid given without conditions.
- **Bilateral aid** is aid given by one country to another country.
- **Multilateral aid** is aid given by countries to international organizations such as the World Bank or UN agency, which then distributes it to other countries.

A developing country may borrow from industrial countries in order, for example, to spend on investment, both in capital goods and human capital. It may look to foreign banks because the supply of domestic funds is low due to low savings. If the money borrowed does result in the development of new industries and increases in productivity, sufficient income may be used for non-productive purposes such as military programs, that some projects may prove to be unprofitable and that interest rates rise. There are a number

of other reasons why developing countries may experience difficulties in paying interest (servicing the debts) and repaying the capital sum. These include natural disasters and changes in exchange rates. Many developing countries have significant levels of debts. This can result in more money flowing out of the developing countries into industrial countries than the other way around—a redistribution of income from the poor to the rich. This restricts development.

9. Increasing International trade

The governments of developing economies often argue for trade rather than aid. What they are actually arguing for is trade on fair terms. There are a number of reasons why international trade can act as an engine for growth. It can improve supply conditions and can reduce costs, which can lead to more efficient production as:

- economies of scale become possible because of the larger market
- the increased competition encourages domestic entrepreneurs to innovate and look for new techniques of production
- trade leads to a transfer of skills and technology from developed and developing economies
- specialization and trade increases incomes and so provides the increased savings which can be used for investment.
- International trade may also stimulate demand. The expansion of production to cater for the export market may increase employment. The result will be an expansion of spending power in the home market that will create demand for domestic output.

Although the beneficial effects of international trade upon the growth rate of developing economies have a strong theoretical basis, many economists have a far more pessimistic view. This is based upon the pattern of world trade that emerged as economies specialized. Developing economies have tended to specialize in primary products. Those developing economies that have specialized in agricultural products have been at a disadvantage in trading relations since the prices of agricultural products have declined relative to the prices of manufactured goods and services over time. This is for three main reasons:

- The income elasticity of demand for primary products is low so that, as world incomes have risen, there has been little extra demand for agricultural products and demand has shifted to manufactured goods and services.
- Producers of manufactured goods in developed economies have an element of monopoly power, which they have used to maintain high prices.
- Subsidies provided to farmers in the USA and Europe put downward pressure on global agricultural prices. For instance, it is claimed that US subsidies given to its cotton farmers have deflated the global price and have given US cotton farmers an unfair competitive advantage.

As trading patterns have been seen by some governments as exploitative, a number of developing economies, such as Venezuela, have adopted import substitution policies and sought to diversify their economies. They have tried to prevent imports of manufactured goods from developed economies in order to develop their own manufacturing industries. Other developing economies, such as the Philippines, have gone for export-led growth. Generally, the secondary sector is becoming more important in developing economies and some are gaining comparative advantage in industries formerly dominated by developed economies.

The role of the International Monetary Fund and the World Bank

The International Monetary Fund

The International Monetary Fund (IMF) was set up in 1945 after the Bretton Woods Conference to help promote the health of the world economy after World War II. With headquarters in Washington, DC, it currently has 185 members. Non-members include Cuba and North Korea. The purposes and responsibilities of the IMF include:

- to promote international monetary cooperation
- to facilitate the expansion and balanced growth of international trade

- to provide exchange rate stability
- to assist in setting up a multinational system of payments
- to make resources available to members experiencing balance of payments difficulties, on condition that adequate safeguards are provided.

These activities have been central to the development of global trade since a stable system of international payments and exchange rates is necessary for trade to take place between two countries. In carrying out its responsibilities, the IMF has three main functions that are known as **surveillance**, **technical assistance** and **lending**. The first two are in line with its mission of promoting global growth and economic stability by encouraging countries to adopt sound economic policies. The third function is used where member countries have trouble in financing their balance of payments.

The World Bank

Like the IMF, the World Bank was established at the Bretton Woods Conference, Its function is to

- provide financial support for internal investment payments such as building new roads
- improving infrastructure
- constructing new health facilities

It is best described as the World Bank Group through the activities of its five constituent agencies. These are:

International Bank for Reconstruction and Development (IBRD)

International Finance Corporation (IFC)

International Development Association (IDA)

Multilateral Investment Guarantee Agency (MIGA)

International Centre for Settlement of Investment Disputes (ICSID).

The IBRD and IDA provide low- or no-interest loans and grants to countries that do not have favorable access to international credit markets. Therefore, the focus of activities is very much on developing economies. Grants are only provided to the world's poorest economies. Loans cover areas such as:

- health and education—in order to enhance human development in a country for improving sanitation and combating AIDS
- agriculture and rural development—for irrigation programs and water supply projects
- environmental protection—for reducing pollution and for ensuring that there is compliance and pollution regulation
- infrastructure—roads, railways, electricity
- governance—for anti-corruption reasons.

Loans tend to be linked to conditions that involve wider- reaching changes being made to the economic policies of the recipient economies. But The IMF and World Bank have been criticized for imposing the so-called '**Washington Consensus**' on developing economies. The Washington Consensus was devised by a US economist, who proposed ten economic policy prescriptions. These policy prescriptions, which include privatization, deregulation and trade liberalization, are based on increasing the role of market forces. Such an approach may increase efficiency, which would increase productive potential. It may, however, increase income inequality and may not work if the problem that is holding back development is not too much government intervention but market failure such as a lack of financial markets.

Problems Existing In Developed Countries:

Problems which have been solved or mitigated:

- The problem of low rate of economic growth would be solved
- Poor infrastructure problem would be solved
- Debt issues↓
- Unemployment↓
- Real GDP per capita↑
- Birth Rate↓

- Death Rate↓
- Infant Mortality Rate↓
- Literacy Rate↑
- Political stability↑
- Health Facilities↑
- Poverty↓, etc.

Problems which may persist or worsen:

- Incomes↑ ⇒ imports↑ ⇒ Balance of current account worsens.
- Unemployment may increase if potential growth rate is higher than actual growth rate.
- Demand-pull inflation↑
- Income inequality may rise
- Problem of immigration
- Political instability
- Dependency ratio and aging population.
- Environmental hazards may increase, so Negative Externalities↑
- Depletion of non-renewable resources causing more scarcity in future.
- Etc.

Past Paper Questions

Topic: Standard Of Living

1. O/N 18/P42/Q5/b

Discuss whether GDP is always a good measure of living standards. [13]

2. O/N 18/P41/Q7/b

It is difficult to calculate the value of GDP and it does not provide an accurate measure of the welfare or happiness of a country's citizens, therefore it should not be used as an indicator of the standard of living. Discuss whether you agree with this statement. [13]

3. M/J 17/P43/Q7/a

Estimates in 2015 put the GDP of New Zealand at US\$191 billion, Peru at US\$190 billion and Romania at US\$189 billion. Are these figures a sufficient indication that the standard of living in the three countries was very similar? [12]

4. O/N 16/P42/Q7/a

Conventional estimates of national income indicated that average income per head between 2009 and 2013 was US\$98 780 in Norway and US\$36 900 in New Zealand. Consider whether this means that the standard of living in Norway is nearly three times as high as in New Zealand. [12]

5. O/N 16/P41/Q7/b

Discuss how easy it is to compare the standard of living between developing and developed countries. [13]

6. M/J 16/P43/Q5/b

Assess how appropriate it is to use economic growth as an indicator of how a country's standard of living compares with other countries. [13]

7. M/J 16/P42/Q6

Imagine you have been asked to produce a report about the quality of life in your country. Discuss what would be important to include in your report and what economic indicators you would use in order to reach a conclusion. [25]

8. M/J 16/P41/Q7

Discuss which issues are at the heart of the debate about the quality of life in a country and what indicators might be used to assess them. [25]

9. Mar 16/P42/Q7

Governments want to increase the standard of living in their country. Discuss whether the indicators used to measure the standard of living are reliable and consider what policies a government might use to try to increase the standard of living in its country. [25]

10. O/N 15/P42/Q5

The government of your country wants to know how the economy compares with other countries' economies. Discuss which economic indicators it should obtain and how reliable they might be as a basis for such a comparison. [25]

11. O/N 15/P41/Q7

'People in developed countries suffer from pollution and overcrowding. However, people in developing countries suffer from malnutrition and poverty.' Discuss whether it is correct to distinguish between developed and developing countries in this way and consider how living standards can be compared between the two types of country. [25]

12. O/N 14/P42/Q7/a

How effective is the measurement of economic growth as an indicator of how a developing country's standard of living compares with other countries? [12]

13. M/J 14/P43/Q5/b, M/J 14/P41/Q5/b

Discuss how a fall in national income might affect a country's standard of living. [13]

14. M/J 14/P42/Q7/b

Discuss whether GDP is a reliable measure of the difference in living standards between developing and developed economies. [13]

Topic: Sources & Policies of Economic Growth**1. M/J 19/P42/Q7/a**

Explain what is meant by actual economic growth and potential economic growth. [12]

2. M/J 18/P42/Q5/a

Explain the difference between actual growth and potential growth. [12]

3. O/N 17/P43/Q6/b

The table shows economic growth rates of GDP for selected countries for 2013.

Switzerland 1.9%	Sweden 1.5%
Uganda 6.0%	Zimbabwe 4.5%

Source: worldbank.org

Discuss why developing countries often aim to increase economic growth. [13]

4. Mar 16/P42/Q5/a

Consider whether the main cause of economic growth is an increase in population, and hence in labour supply. [12]

5. M/J 14/P42/Q5/b

It was reported in 2012 that consumers should not be encouraged to save more and reduce their debts. Increased saving would result in a Keynesian 'paradox of thrift' which would not help economic growth. Instead consumers should spend money on new purchases.

(Source: The Times. 2011)

Discuss what is meant by economic growth and consider whether spending money on new purchases would necessarily help economic growth. [13]

Topic: Effects of Economic Growth**1. M/J 18/P42/Q5/b**

To what extent do you agree that the costs of economic growth are greater than the benefits? [13]

2. M/J 17/P43/Q6/b

All countries hope to cause their economies to expand and develop through economic growth. Would you agree that for a developed country with unused resources economic growth is only ever beneficial? [13]

3. M/J 16/P43/Q5/a

It was reported that India's policymakers seem to be fighting a losing battle with inflation. Some economists linked the persistent rise in prices to the pace of economic growth. Consider whether economic growth will always cause inflation. [12]

4. M/J 16/P41/Q6/b

At a time of an election a government makes a promise that, if re-elected, it would aim to increase the growth rate of the national income. Discuss whether an increase in the growth rate is necessarily beneficial. [13]

5. Mar 16/P42/Q5/b

Do you agree that a country should try to increase its rate of economic growth? [13]

6. Specimen Paper 2016/P4/Q4/a

The combination of rapid economic growth and inflation is no coincidence. (Source: The Times) Explain why the rapid growth and high inflation might often occur at the same time. [12]

7. M/J 15/P42/Q6/a

The table shows figures for annual GDP growth rates at market prices for three developing countries, Bangladesh, Ethiopia and Malawi, and three developed countries, Greece, UK and USA.

	GDP growth rates (%)		
	2009	2010	2011
Bangladesh	5.7	6.1	6.7
Ethiopia	8.8	9.9	7.3
Greece	-3.1	-4.9	-7.1
Malawi	9.0	6.5	4.3
UK	-4.0	1.8	0.8
USA	-3.5	3.0	1.7

Source: The World Bank

Describe what is meant by economic growth and consider if it is always advantageous. [12]

8. O/N 14/P41/Q5/a

An economist stated 'you cannot encourage economic growth, and cut spending and increase taxes at the same time'. (Source: The Times. 2011)

Explain the costs and benefits of economic growth. [12]

9. M/J 14/P43/Q7/b, M/J 14/P41/Q7/b

Discuss whether economic growth is necessarily beneficial to a developing economy. [13]

10. O/N 13/P41/Q4/a

In 2011, an economic advisor recommended that low interest rates in a country should continue because of the uncertainty about the ability of the economy to grow. (Source: The Independent)

Explain the possible link between interest rates and the economic growth of an economy. [12]

11. O/N 13/P41/Q4/b

Discuss what other policies a government might use to encourage economic growth. [13]

12. O/N 12/P41/Q6

Whether a country can be classified as developed depends on the value of its GDP and the higher the GDP the better it is for the country.

Assess this opinion. [25]

13. M/J 11/P42/Q7/b

Discuss whether increases in economic growth are necessarily beneficial to an economy. [13]

14. O/N 09/P41/Q5/b

Some Japanese economists have argued that higher interest rates would, unusually, improve Japan's economic growth.

Discuss whether economic growth is good for an economy. [13]

15. M/J 08/P4/Q5/a

The solution to unsatisfactory economic development and growth is to focus on economic theory, scientific advances, new technology and market forces.

Explain what is meant by economic development. [10]

16. M/J 08/P4/Q5/b

Discuss whether you agree with this statement. [15]

17. O/N 07/P4/Q6/a

Explain why there might be rapid economic growth in a country. [10]

18. O/N 07/P4/Q6/b

Discuss whether it is best to use all factors of production as fully as possible. [15]

19. M/J 06/P4/Q5/b

Sometimes the development of a project in an urban area is encouraged by a government. At other times the priority is to support rural areas.

Discuss whether it might be better to conserve, rather than exploit, the resources of a country. [13]

20. O/N 04/P4/Q5/b

Many countries are concerned to promote economic growth.

Discuss whether an emphasis on economic growth is always beneficial.

[13]

Topic: Characteristics of Developing Economies**1. M/J 19/P41/Q7/b, M/J 19/P43/Q7/b**

It is often stated that the problem of 'a vicious cycle of poverty' exists in developing countries.

Explain what this means and discuss how this problem might be solved.

[13]

2. O/N 18/P42/Q7/a

Explain how developing countries differ from developed countries.

[12]

3. O/N 18/P41/Q7/a

Distinguish between economic growth and economic development and consider whether they are linked.

[12]

4. M/J 18/P41/Q7

'Both developed and developing economies can experience high levels of unemployment, high rates of inflation and large current account deficits. Therefore there is now no real difference between these two types of economy'.

How far would you agree with the view that this statement is misleading?

[25]

5. O/N 17/P43/Q6/a

The table shows economic growth rates of GDP for selected countries for 2013.

Switzerland 1.9%	Sweden 1.5%
Uganda 6.0%	Zimbabwe 4.5%

Source: worldbank.org

Does this table mean that Zimbabwe and Uganda should be classified as developed countries and Switzerland and Sweden as developing countries?

[12]

6. O/N 17/P42/Q6

Whether a country can be classified as developed depends on the value of its GDP and the higher the GDP the better it is for the country.

Consider this opinion.

[25]

7. O/N 17/P41/Q6

'The measurement of living standards is problematic. It is never certain that people in one country are better off than those in another. The classification of countries into developing and developed is, therefore, never clear.'

Do you agree with this argument?

[25]

8. M/J 17/P43/Q6/a

All countries hope to cause their economies to expand and develop through economic growth.

Explain what is meant by economic growth. Consider why, if all countries are developing, some are called developed countries.

[12]

9. M/J 17/P42/Q6/a

Developed countries sometimes prevent investment in rural areas while developing countries often encourage rural development. Consider why this might be so.

[12]

10. M/J 17/P42/Q6/b

Why is it important to use qualitative data as well as quantitative GDP data when considering whether a country is developed or developing?

[13]

11. M/J 17/P41/Q5/a

Explain why some countries are referred to as developing. Suggest why the expected increase in population in developing economies is thought to be a source for concern.

[12]

12. O/N 16/P43/Q7/a

Consider whether the main distinguishing feature of a developing economy is a low level of income per person.

[12]

13. O/N 16/P42/Q7/b

Norway and New Zealand are classified as developed countries. Make a judgement on what are the important distinguishing differences between a developed country and a developing country. [13]

14. O/N 16/P41/Q7/a

Explain what is most in need of development in a developing economy. [12]

15. M/J 16/P42/Q7/a

Explain how the age and employment structure of a population in a developing country may differ from those of a developed country. [12]

16. Specimen paper 2016/P4/Q5/a

Explain what changes might occur to the age distribution and occupational structure of a population as an economy changes from developing to developed. [12]

17. Specimen paper 2016/P4/Q5/b

Assume that you have been given some statistics which indicate that a country has a high rate of unemployment and a dependency on international trade. Consider whether these statistics are sufficient to indicate whether that country may be classed as developing or developed? [13]

18. O/N 15/P43/Q7

Economic development and the exploitation of resources can result in structural change and unemployment in some industries, increased environmental damage, overexploitation of fish stocks, increased inequalities in the distribution of income and pressure on resources causing inflation.

Explain what is meant by a developing economy and discuss whether it would be wise to conclude from the above opinion that developing countries should, therefore, not seek to become developed. [25]

19. M/J 15/P42/Q6/b

The table shows figures for annual GDP growth rates at market prices for three developing countries, Bangladesh, Ethiopia and Malawi, and three developed countries, Greece, UK and USA.

	GDP growth rates (%)		
	2009	2010	2011
Bangladesh	5.7	6.1	6.7
Ethiopia	8.8	9.9	7.3
Greece	-3.1	-4.9	-7.1
Malawi	9.0	6.5	4.3
UK	-4.0	1.8	0.8
USA	-3.5	3.0	1.7

Source: The World Bank

Explain what is meant by a developing country and a developed country and consider whether the table supports the idea that GDP growth rates are a good indicator of development. [13]

20. O/N 14/P43/Q7/a

The main characteristics of a developing country are a small service sector and a lack of international trade. Do you agree with this statement? [12]

21. O/N 14/P43/Q7/b

It was reported that in the last quarter of 2012 a developing economy 'had performed well in terms of its GDP compared with other countries'. Explain what this statement means and discuss whether a comparison using GDP is a valid way of measuring economic performance between countries. [13]

22. M/J 14/P43/Q7/a, M/J 14/P41/Q7a

It is sometimes claimed that the population of a developing country is always large. Is a large population the distinguishing feature of a developing country? [12]

23. M/J 13/P41/Q5/a

What distinguishes a developed economy from a developing economy? [12]

24. O/N 12/P43/Q6/b

The main guide to the economic development of a country is the proportion of its working population engaged in the tertiary sector. Discuss whether this statement is true. [13]

25. O/N 12/P42/Q6/a

Explain how the age and employment structures of the population of a developing country are likely to differ from those of a developed country. [12]

26. O/N 12/P42/Q6/b

You are told that a country has problems relating to overcrowding, unemployment and pollution. Discuss whether the existence of such problems necessarily means that the country must be a developing country. [13]

27. O/N 11/P42/Q7

Some economies are said to be developing while others are developed. Explain the difference between the two and discuss whether the problems of a developing economy would be solved if it achieves developed status. [25]

28. M/J 11/P42/Q7/a

As an economy develops, the relative importance of different sectors of production changes. Explain, with examples, why the pattern of employment might change as an economy develops. [12]

29. O/N 10/P43/Q7/a

Some African countries are richer in natural resources in the form of minerals and land than some developed countries. Why then are these same African countries referred to as developing countries? [12]

30. M/J 10/P41/Q5/a

For some years governments of developed countries have been promoting Fair Trade, which means paying a fair price for primary products bought from African developing countries. Now the governments in developed countries, anxious to conserve resources, are complaining that the transport of products around the world increases pollution and should be limited. They support instead the purchase of goods produced at home. These are often more expensive to produce. African farmers may be left with products that their local people do not eat.

Explain what might determine whether a country is classified as developed or developing. [12]

31. O/N 09/P41/Q7/a

Explain what distinguishes a developing country from a developed country. [12]

32. O/N 06/P4/Q5/a

Explain what indicators would suggest that a country is developed rather than developing. [12]

33. O/N 04/P4/Q6/a

What are the characteristics of a developing economy? [12]

34. M/J 04/P4/Q7/a

Explain what indicators suggest that an economy is developing rather than developed. [12]

Topic: Policies To Promote Economic Development

1. M/J 19/P42/Q7/b

'Health, education and savings are the most important factors in determining long-term development in developing countries.' Comment on this statement. [13]

2. M/J 19/P41/Q7/a, M/J 19/P43/Q7/a

Assess the impact of foreign direct investment (FDI) on developing economies. [12]

3. O/N 18/P42/Q7/b

Assess the extent to which a multinational company's investment in a developing country leads to economic growth. [13]

4. M/J 18/P43/Q7

Economic development can only be achieved by economic growth and this depends solely on higher levels of government investment.

To what extent would you agree with this statement? [25]

5. M/J 17/P41/Q5/b

Discuss what the government of a developing country might do to enable its economy to become more developed. [13]

6. M/J 15/P43/Q6

'Labour is a resource; the use of resources increases economic wellbeing. The main aim of the government of a developing country keen to increase wellbeing should, therefore, be to support an increase in the population of its country.'

Discuss this argument and decide whether you agree with it.

[25]

7. M/J 15/P41/Q7/b

In 2012, a table for Gross Domestic Product (GDP) per head showed that only three of the world's ten richest countries had populations above 7 million. These were the United States: 315 million; the United Arab Emirates: 8.2 million; and Switzerland: 8 million.

Classifications often distinguish between developed (rich) and developing (poor) countries. Consider in what sense a developing country is said to be 'poor' and discuss whether the best way to become developed (rich) would be to reduce the size of its population.

[13]

8. O/N 14/P42/Q7/b

Discuss whether economic growth would necessarily lead to a more efficient use of resources in developing countries.

[13]

9. O/N 13/P41/Q5

'The many difficulties involved in measuring living standards mean that it is never possible to be certain that the people in one country are better off than those in another country.'

How far do you agree with this comment?

[25]

10. M/J 13/P41/Q4

Governments often suggest that there has been an improvement in the standard of living in their economy and support their statement by referring to a range of economic indicators. One of the indicators they use is GDP.

Discuss whether GDP is a reliable indicator of changes in the standard of living in an economy.

[25]

11. O/N 12/P43/Q7

The table below shows figures for GDP for two countries in 2000 and **2010**.

Country	GDP 2000 \$US billions	GDP 2010 \$US billions
USA	9 825	13 271
India	469	929

Discuss whether the above figures are sufficient to conclude that the standard of living in the USA is higher than the standard of living in India.

[25]

12. O/N 11/P43/Q5/b

In 2009 the International Monetary Fund (IMF) said that 'it expected global economic growth to fall below zero making it the worst performance in most of our lifetimes.'

Assess the effectiveness of economic growth as an indicator of how a country's standard of living compares with other countries.

[13]

13. O/N 11/P41/Q5/b

Discuss whether GDP is the best indicator which can be used to compare the standard of living in a developing country with that in a developed country.

[13]

14. M/J 11/P41/Q7

The main way a developing country could become a developed country is for government policy to concentrate on the protection of domestic industry and investment in infrastructure. Do you agree that this is the best policy?

[25]

15. M/J 11/P41/Q5/b

'GDP figures tell us many things except that which makes life worthwhile. They tell us nothing about education, health and quality of life. They are, therefore, of little value.'

Discuss the extent to which you agree with this argument.

[13]

16. O/N 10/P43/Q6/a

Hurricanes can occur in some parts of the world. Major flooding is caused, crops are ruined and the wind destroys homes and factories. People's standard of living is severely affected. Some blame climate change for unusual weather conditions.

Explain how a country might measure its standard of living.

[12]

17. O/N 10/P43/Q6/b

Discuss how far a country's standard of living is determined by factors beyond its control. [13]

18. O/N 10/P41/Q5

National income statistics are used to calculate a country's GDP. The table shows the GDP for five countries for 2008.

Country	GDP \$m
USA	14580000
India	3319000
Singapore	244000
Mauritius	14060
Swaziland	5626

Discuss how far the table might be used to determine whether one country has higher living standards than another. [25]

19. M/J 10/P41/Q5/b

For some years governments of developed countries have been promoting Fair Trade, which means paying a fair price for primary products bought from African developing countries. Now the governments in developed countries, anxious to conserve resources, are complaining that the transport of products around the world increases pollution and should be limited. They support instead the purchase of goods produced at home. These are often more expensive to produce. African farmers may be left with products that their local people do not eat.

Discuss whether the old and the new approaches to trade of the developed countries would help achieve the conservation of resources. [13]

20. O/N 09/P42/Q5/a

Explain whether low GDP is a good indicator that a country has a low standard of living. [12]

21. O/N 09/P41/Q7/b

When a country achieves 'developed' status does this mean that it has solved all its economic problems? [13]

22. O/N 09/P41/Q6

'There is no point in calculating figures for GNP. They are never an accurate estimate of welfare, and people are more concerned about crime, pollution and health than GNP.'

Do you agree with this argument? [25]

23. M/J 08/P4/Q6/b

Discuss whether a fall in the level of national income is a good indicator that there has also been a decline in the standard of living in the country. [15]

24. M/J 07/P4/Q4

Some people say they are better off living in a rural area, where there is less congestion and pollution. Others prefer cities for the employment and the variety of leisure activities available.

If there are such differences of opinion of living standards in one country, is there ever any chance of accurately comparing living standards between countries? [25]

25. O/N 06/P4/Q5/b

It is sometimes stated that the policies of farm subsidies and international protectionism pursued by developed countries have caused damage to the economies of developing countries. Discuss whether the policies of governments in developed countries necessarily harm developing countries. [13]

26. O/N 05/P4/Q7

'There are so many difficulties in measuring living standards that we can never be sure that people in one country are better off than those in another country.' Comment upon this statement.

[25]

27. M/J 05/P4/Q7/b

How useful are national income statistics for indicating changes in living standards? [15]

28. O/N 04/P4/Q6/b

How useful is the GDP as a measure of the standard of living in a country? [13]

29. M/J 04/P4/Q7/b

In Johannesburg in 2002 there was an international conference, the World Summit on Sustainable Development, to discuss the use of the world's resources and the best ways governments can help to promote environmentally friendly development. Analyze how the policies adopted by a developed economy may effect the standard of living in a developing economy. [13]

30. O/N 03/P4/Q7

How reliable are national income statistics as a means of comparing living standards between countries? [25]

31. M/J 03/P4/Q5/b

One tenth of the world's population live in developing countries. Many of those live on less than US\$2 day, and the average life expectancy is less than 50 years.

Describe the policies that might be used by the government of a developing country to remedy the situation described above, and assess how easy it would be to implement those policies. [15]

UNIT 3

Keynesian Theory of Income and Employment

A2 Level

Macroeconomics

Notes Book 4

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Syllabus 2019 – 21

- a. **The circular flow of income**
 - closed and open economies
 - the circular flow of income between households, firms, government and the international economy
- b. **Aggregate Expenditure (AE) function**
 - meaning
 - components of AE and their determinants
 - average and marginal propensities to save and consume
- c. **Income determination using**
 - AE and income approach
 - withdrawal (leakage) and injection approach
- d. **Inflationary and deflationary gaps**
 - full employment level of income and equilibrium level of income
 - output gap and expenditure gap
 - inflationary and deflationary gaps
- e. **Multiplier**
 - the multiplier
- f. **Accelerator**
 - autonomous and induced investment
 - the accelerator

Unit 3 Keynesian Theory Of Income and Employment

Sectors and Types of Economies:

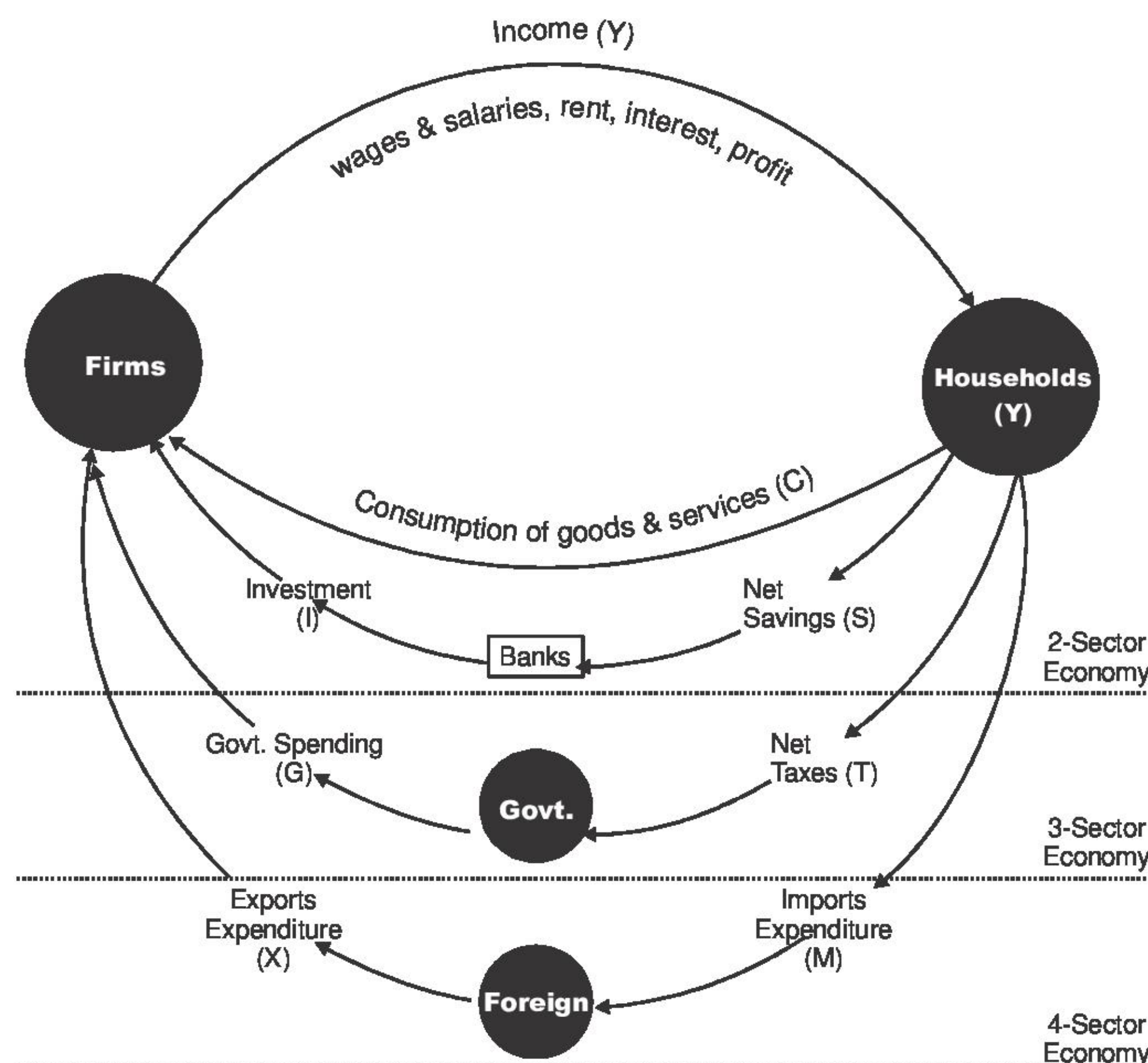
HOUSEHOLDS	FIRMS	GOVERNMENT	FOREIGN
expenditure on consumer goods	expenditure on capital goods	expenditure on merit and public goods	expenditure on exports and imports
Consumption and saving	Investment	Government spending and taxation	Exports and imports
C, S	I	G, T	X, M

Types of Economies

Sectors	2 Sector Economy	3 Sector Economy		4 Sector Economy
		With Government	With Foreign Sector	
Households	✓	✓	✓	✓
Firms	✓	✓	✓	✓
Government	✗	✓	✗	✓
International Trade	✗	✗	✓	✓
Type Of Economy	Closed	Closed	Open	Open

Circular Flow of Income

It is the way by which income and output circulates between sectors of an economy.



In the diagram, the economy is divided into two major groups: firms and households. Each group has two roles. Firms are producers of goods and services; they are also the employers of labour and other factors of production. Households (which include all individuals) are the consumer of goods and services; they are also the suppliers of labour and various other factors of production.

Firms pay money to households in the form of wages and salaries, dividends and shares, interest and rent. These payments are in return for the services of the factors of production—labour, capital, and land—that are supplied by households. Thus, on the left-hand side of the diagram above, money flows directly from firms to households as 'factor payments'.

Households, in turn, pay money to domestic firms when they consume domestically produced goods and services (C_d). This is shown on the right-hand side of the inner flow. There is thus a circular flow of payments from firms to households to firms and so on.

If households spend all their incomes on buying domestic goods and services, and if firms pay out all this income they receive from consumers as factor payments to domestic households, and if the velocity at which money circulates does not change, the flow will continue at the same level indefinitely. The money just goes round and round at the same speed and incomes remain unchanged.

In the real world, of course, it is not as simple as this. Not all income gets passed on round the flow; some is withdrawn. At the same time, incomes are injected into the flow from outside. Let us examine these withdrawals and injections.

Withdrawal (W)

Only part of the incomes received by households will be spent on the goods and services of domestic firms. The remainder will be withdrawn from the circular flow. Likewise, only part of the incomes generated by firms will be paid to domestic households. The remainder of this will also be withdrawn. There are three forms of withdrawal (or 'leakages' as they are sometimes called).

Net saving (S). Saving is income that households choose not to spend but to put aside for the future. Savings will normally be deposited in financial institutions such as banks and building societies. This is shown in Figure above. Money flows from households to 'banks,' etc. What we are seeking to measure here, however, is the net flow from households to the banking sector. We therefore have to subtract from saving any borrowing or drawing on past savings by households in order to get the net saving flow.

$$\text{Net Savings} = \text{Savings} - \text{Borrowing or drawings on past savings}$$

Of course, if household borrowing exceeded saving, the net flow would be in the other direction: it would be negative.

Net taxes (T): The payment of taxes represents a withdrawal of money from the circular flow in much the same way as saving; only, in this case, people have no choice. Some taxes, such as income tax is paid out of household incomes. Others, such as VAT and excise duties, are paid out of household expenditure. Others, such as corporation tax, are paid out of firms' incomes before being received by households as dividends on shares. (For simplicity, however, we show taxes being withdrawn at just one point. It does not affect the argument.)

When, however, people receive benefits from the government, such as working families tax credit, child benefit and pensions, the money flows the other way. Benefits are thus equivalent to a 'negative tax'. Benefits are thus equivalent to a 'negative tax'. These benefits are known as transfer payments. They transfer money from one group of people (taxpayers) to others (the recipients).

In the model, 'net taxes' (T) represents the net flow to the government from households and firms. It consists of total taxes minus benefits.

Import expenditure (M): Not all consumption is of totally home-produced goods. Households spend some of their incomes on imported goods and services, or on goods and services using imported components. Although the money that consumers spend on such goods initially flows to domestic retailers, it will eventually find its way abroad, either when the retailers or wholesalers themselves buy the imports from abroad, or when domestic manufacturers purchase imported inputs to make their products. This expenditure on imports constitutes the third withdrawal from the inner flow. This money flows abroad.

Total withdrawals are simply the sum of net saving, net taxes and the expenditure on imports:

$$W = S + T + M$$

Injections (J):

Only part of the demand for firm's output (i.e. aggregate demand) arises from consumers' expenditure. The remainder comes from other sources outside the inner flow. These additional components of aggregate demands are known as injections (J). Injection is any activity that raises the level of national income in circular flow. There are three types of injection.

Investment (I):

Investment means an increase in capital stock of a country over the given period of time. This is the money that firms spend which they obtain from various financial institutions—either past savings or loans, or through a new issue of shares. They may invest in plant and equipment (**Gross Fixed Capital Formation**) or many simply spend the money on building up stocks of inputs, semi-finished or finished goods:

Government expenditure (G):

When the government spends money on goods and services produced by firms, it counts as an injection. Examples of such government expenditure include spending on roads, hospitals and schools. (Note that government expenditure in this model does not include state benefits. These transfer payments, as we saw above, are the equivalent of negative taxes and have the effect of reducing the T component of withdrawals.)

Export Expenditure (X):

Exports means spending by foreigners on locally made goods and services. Money flows into the circular flow from abroad when foreign residents buy our exports of goods and services.

Total injections are thus the sum of investment, government expenditure and exports:

$$J = I + G + X$$

Relationship between withdrawals and injections

There are indirect links between saving and investment, taxation and government expenditure, and imports and exports, via financial institutions, the government (central and local) and foreign countries respectively. If a greater proportion of income is saved, there will be more available for banks and other financial institutions to lend out. If tax receipts are higher, the government may be more keen to increase its expenditure. Finally, if imports increase, foreigners' incomes will increase, which will enable them to purchase more of our exports.

These links, however, do not guarantee that $S = I$ or $G = T$ or $M = X$. For a period of time, financial institution can lend out (I) more than they receive from depositors (S) or vice versa; governments can spend (G) more than they receive from depositor (S) or vice versa; governments can spend (G) more than it receives in taxes by borrowing or printing money to make up the difference. Thus planned injections (J) may not equal planned withdrawals (W).

Equilibrium in the circular flow

When injections do not equate withdrawals, a state of disequilibrium will exist. This will set in a process to bring the economy back to a state of equilibrium where injections are equal to withdrawals.

To illustrate this, let us consider a situation where injections exceed withdrawals, the level of expenditure will rise: there will be a rise in aggregate demand. This extra spending will increase firms' sales and thus encourage them to produce more; total output in the economy will rise. Thus firms will pay out more in wages, salaries, profits, rent and interest. In other words, national income will rise. But as national income rises, so households will not only spend more on domestic goods (C_d), but also save more (S), pay more taxes (T) and buy more imports (M). In other words, withdrawals will rise. This will continue until they have risen to equate injections. At that point, national income will stop rising, and so will withdrawals. Equilibrium has been reached.

In Short:

If	$W > J \rightarrow Y \uparrow \rightarrow W \downarrow$	until $W = J$
And If	$J > W \rightarrow Y \uparrow \rightarrow W \uparrow$	until $W = J$
If	$W = J$, i.e.,	
	$S + T + M = I + G + X \rightarrow$	National Income Equilibrium

National Income Equilibrium is a situation where there is no further tendency to change, in National Income. It is a state of an economy where all withdrawals are equal to injections into the circular flow of income.

From Actual to Desired Expenditure

Actual Expenditure	Desired Expenditure
- Calculated at the end of year - Used in previous chapter	- Predicted for coming years - Will be used in this chapter - Also known as planned, or intended expenditure - Symbols are same as of actual expenditure

Total desired expenditure on domestically produced goods and services, or aggregate expenditure, AE:

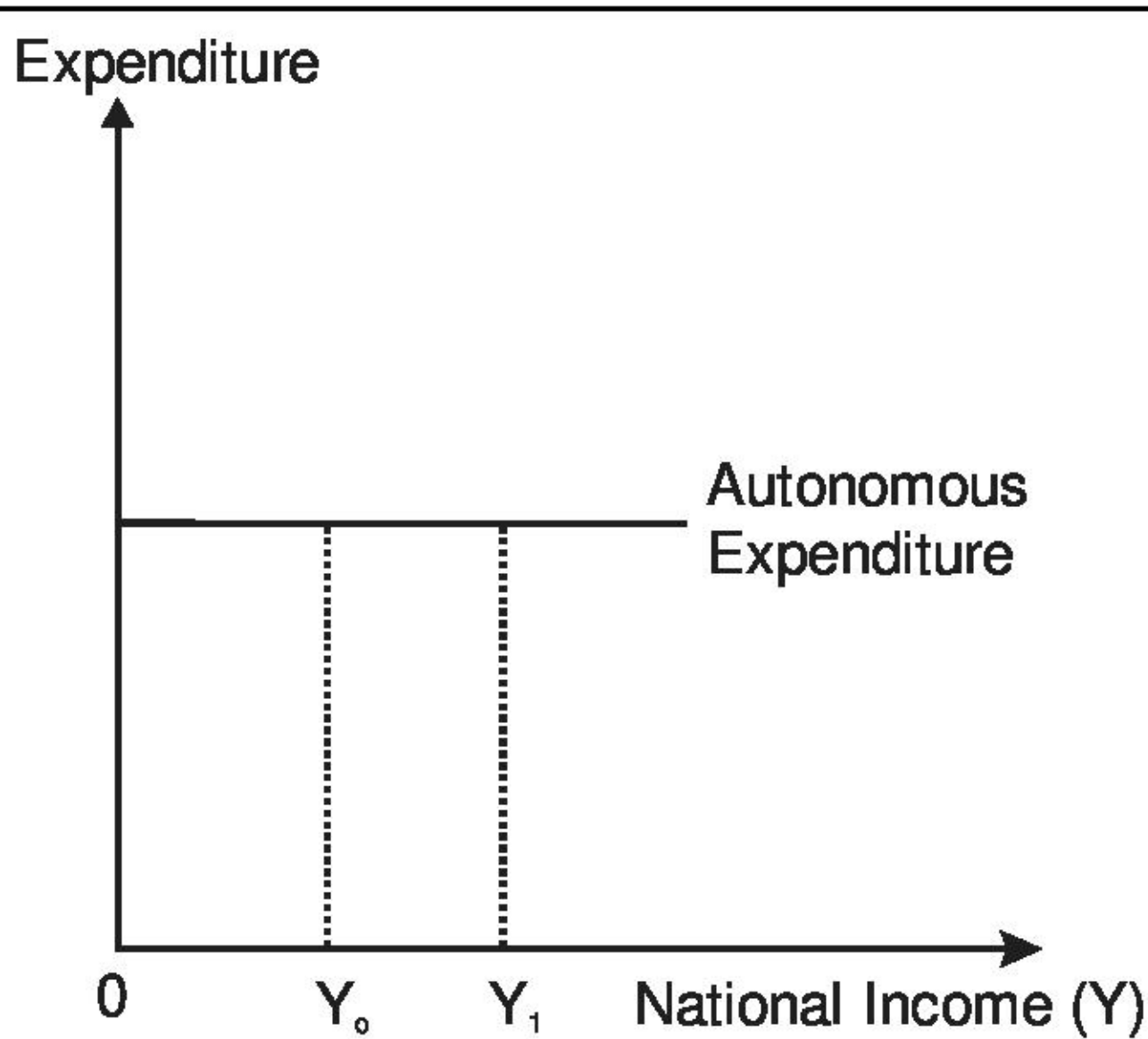
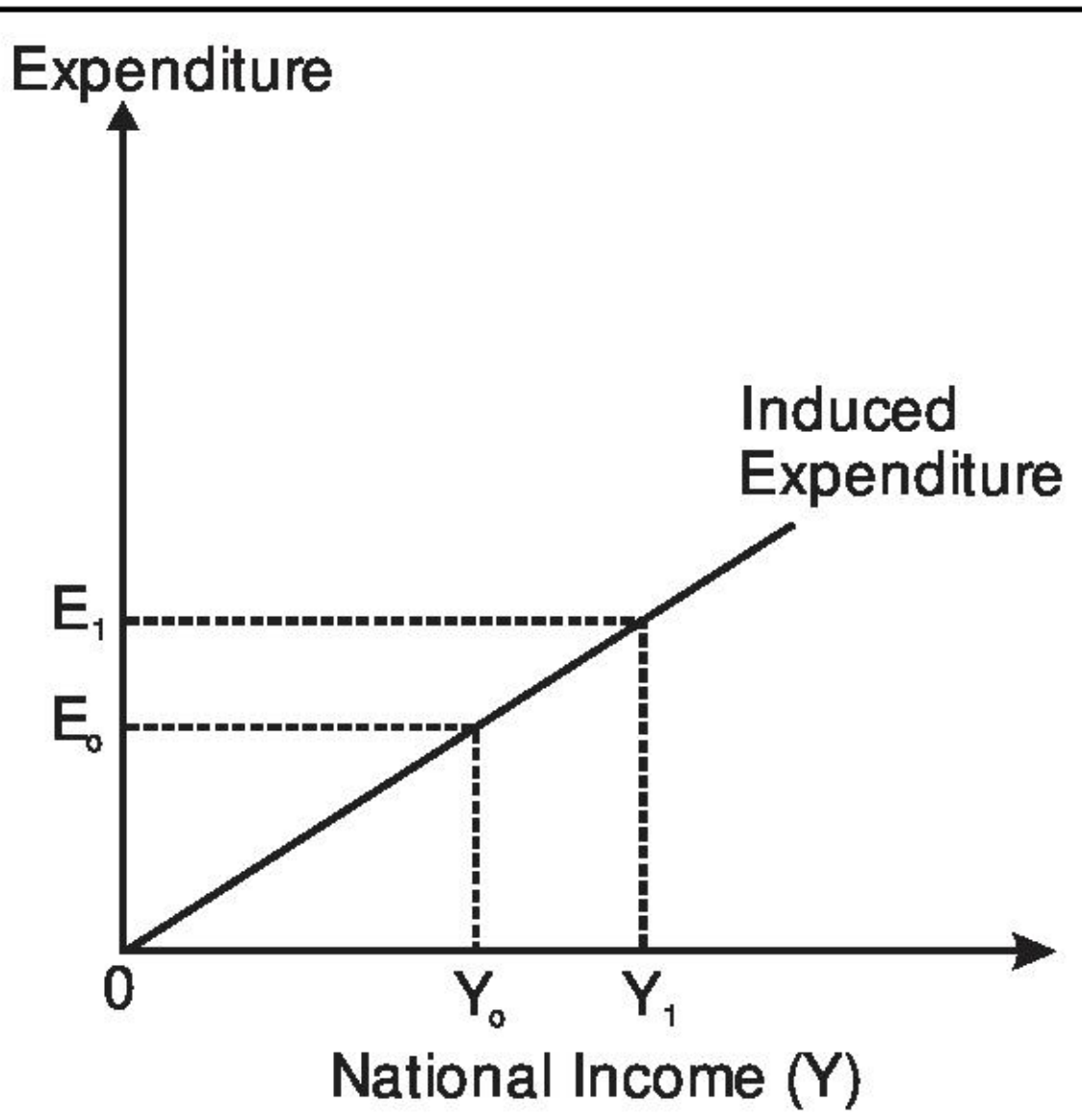
$$AE = C + I + G_0 + (X_0 - M)$$

Desired expenditure need not equal actual expenditure, either in total or any individual category. For example, firms may not plan to invest in the accumulation of stocks of finished goods this year but may do so unintentionally. If they produce goods to meet estimated sales but demand is unexpectedly low, the unsold goods that pile up on their shelves are undesired, and unintended, inventory accumulation. In this case, actual investment expenditure will exceed desired investment.

National income accounts measure actual expenditure in each of the four categories consumption, investment, and net exports. National income theory deals with desired investment, government, and net exports. National income theory deals with desired expenditure in each of these four categories.

Autonomous and induced expenditure

Autonomous expenditure can and do change, but such changes do not occur systematically in response to changes in national income. Components of aggregate expenditure that do change in national income are called induced expenditure.

Autonomous Expenditure	Induced Expenditure
Do not change with the change in national income	Do change with the change in national income
	
e.g. Exports (X_0)	e.g. Imports (M) $\rightarrow M=f(Y) \rightarrow M=MPMY$
Use of naught "0" as subscript	No use of naught "0" as subscript

Marginal propensities:

Marginal propensity to	Abbreviation	Formula
Consume	MPC	$\frac{\Delta C}{\Delta Y}$
Save	MPS	$\frac{\Delta S}{\Delta Y}$
Tax	MPT	$\frac{\Delta T}{\Delta Y}$

Import	MPM	$\frac{\Delta M}{\Delta Y}$
Withdraw	MPW	$\frac{\Delta W}{\Delta Y} = MPS + MPT + MPM$

Average propensities:

Average propensity to	Abbreviation	Formula
Consume	APC	$\frac{C}{Y}$
Save	APS	$\frac{S}{Y}$
Tax	APT	$\frac{T}{Y}$
Import	APM	$\frac{M}{Y}$
Withdraw	APW	$\frac{W}{Y} = APS + APT + APM$

Assumptions of Keynesian theory:

The economy is an extremely complex entity. Therefore, in order to advance our understanding and to make the construction of our model more straightforward, we will make general simplifying assumptions. Having developed a better understanding of the economy we will then drop these assumptions.

(a) Potential national income:

Although there is a gradual upward trend in national income we assume that at any time there is a fixed level of potential national income which corresponds to the full employment of all resources; this is given the symbol Y_F . Thus the level of actual national income Y may be less than but no greater than Y_F . If everyone in the economy were to start working overtime it would be possible to exceed the level of Y_F .

(b) Unemployment:

We assume that there is some unemployment of all factors of production. Thus it is possible to increase the level of Y by bringing these into employment.

(c) Constant prices:

For most of the time it is convenient to assume that there is no inflation (or deflation). In this way the changes in income which we are looking at are changes in real income.

(d) Technology:

We also assume that there are no significant changes in the level of technology such as would significantly alter the relationship between inputs and outputs.

1. Consumption Function:**Desired Consumption Expenditure**

Desired consumption expenditure (c) is the amount households plan to spend on goods and services out of their personal disposable income in order to satisfy their needs and wants.

Consumption depends upon a number of factors but primarily on their disposable income. Dependency on disposable income can be explained through consumption function.

Before study consumption function, Let us analyze what 'Function' stands for in mathematical terms.

Consumption Function:

"It is the relationship between desired aggregate consumption and personal disposal income in a given time period."

Mathematically

$$C = f(Y_d)$$

Where $Y_d = Y - \text{Direct Taxes} + \text{Transfer Payments}$

$Y = \text{National Income}$

Personal disposable income (Y_d) is the income that households have available for spending or saving.

If $Y_d \uparrow \rightarrow C \uparrow$

$Y_d \downarrow \rightarrow C \downarrow$

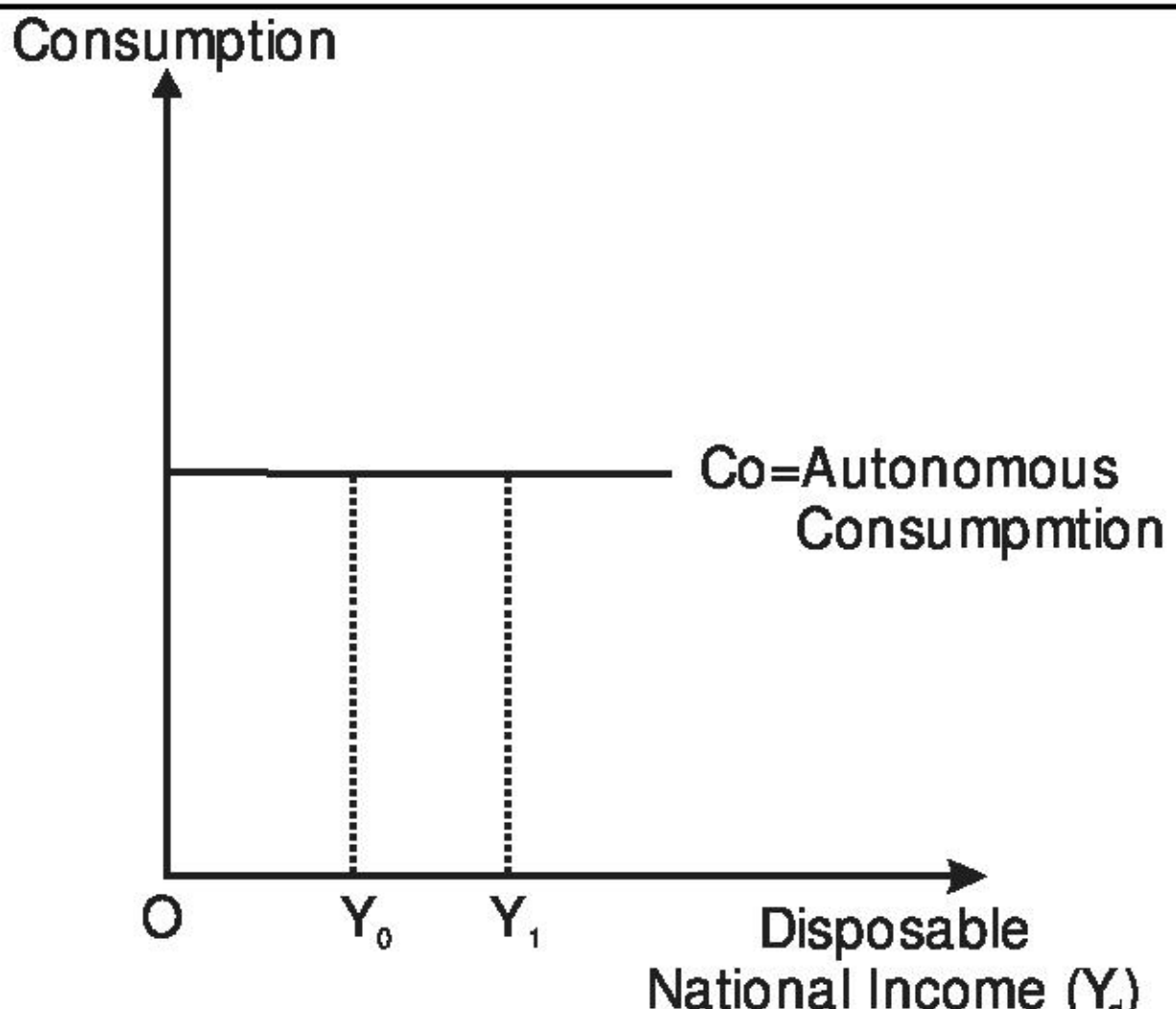
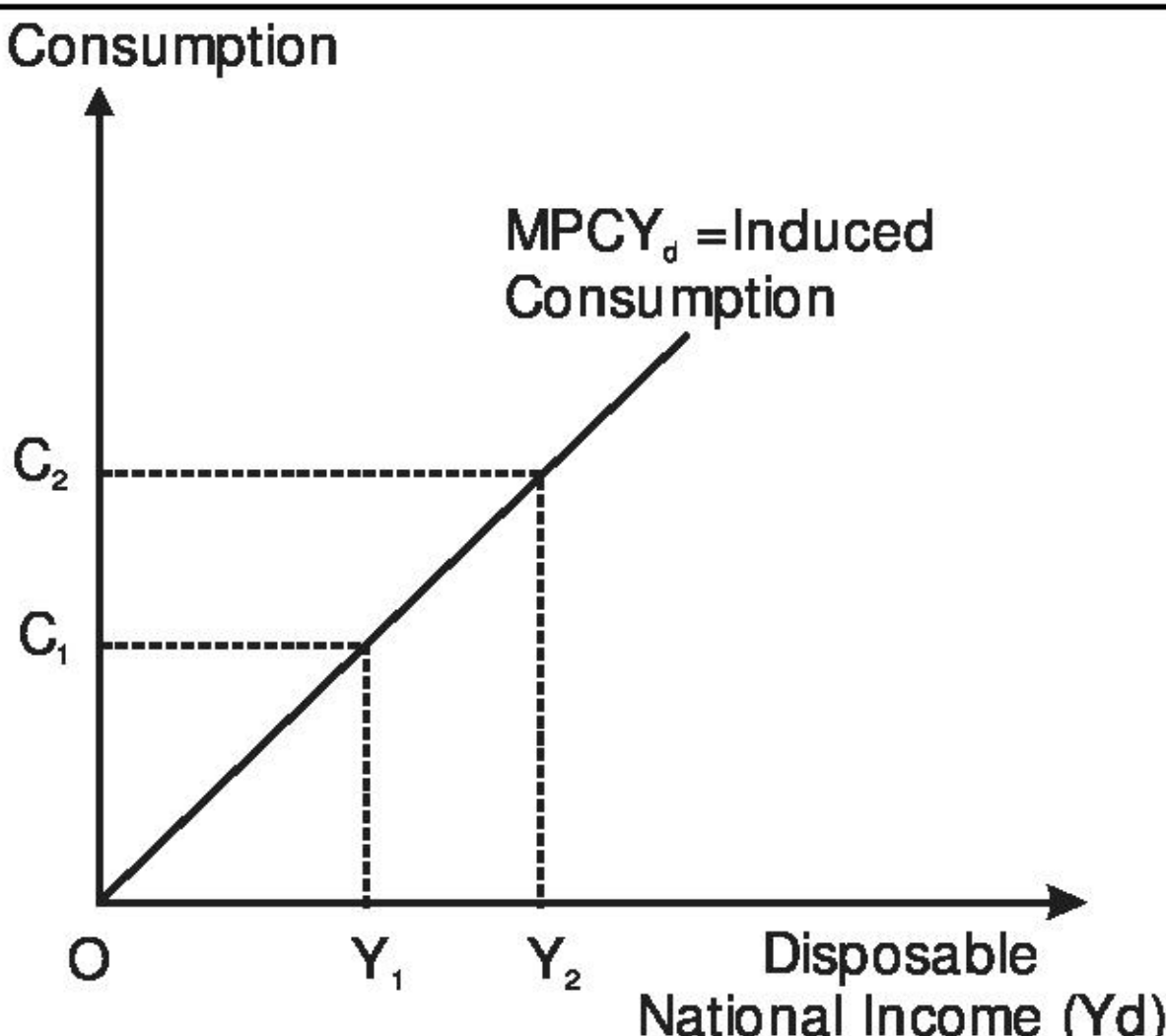
Therefore Consumption is induced and there is a positive relationship between them and it can be written as:

$$C = f(Y_d)$$

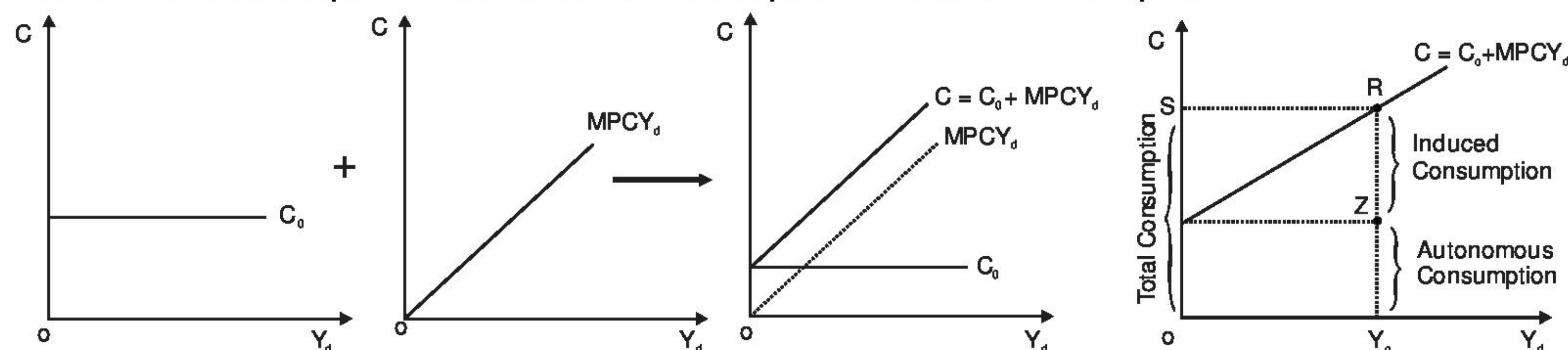
$$C = MPCY_d$$

However if $Y=0$, there is still some consumption which will be autonomous of national disposable income.

Hence, total desired consumption has two components i.e.

Autonomous Consumption (C_0)	Induced Consumption ($MPCY_d$)
It is the part of total desired consumption expenditure which is unrelated to disposable income and unaffected even disposable income is zero. Households plan to consume some goods and services regardless of their level of income. This minimum consumption is needed for survival and it is denoted by ' C_0 ' in consumption function.	It is the part of total desired consumption expenditure of households that increases with the rise in disposable income and vice versa.
$Y_d \uparrow$ $Y_d \downarrow \rightarrow C_0 = \text{Autonomous or constant consumption}$ $Y_d = 0$	If $Y_d \uparrow \rightarrow \text{Induced consumption} \uparrow$ $Y_d \downarrow \rightarrow \text{Induced consumption} \downarrow$ $Y_d = 0 \rightarrow \text{Induced consumption} = 0$
	

Total Desired Consumption = Autonomous Consumption + Induced Consumption



At any level of disposable income, autonomous consumption is equal to the height at which the consumption function intersects the vertical axis. Rest of the part of total consumption would be induced consumption e.g. according to the above diagram on right:

At ' Y_0 '

Height at which consumption function intersects the vertical axis = $OX = ZY_0 = \text{Autonomous Consumption}$

$RY_0 = \text{Total consumption}$

$RY_0 - ZY_0 = RZ = \text{Induced Consumption}$

Slope of consumption function between two levels of national income (i.e. MPC) and at a given level of national income (i.e. APC)

There are two aspects of slope of consumption function:

- Marginal Propensity to consume (MPC)
- Average Propensity to consume (APC)

(i) Marginal Propensity to Consume (MPC)

"It is the fraction of each extra pound of disposable income that households wish to consume."

Or

It is the change in consumption due to change in income.

$$MPC = c = \frac{\Delta C}{\Delta Y_d}$$

e.g., If

$$Y_1 = 100$$

$$C_1 = 60$$

$$Y_2 = 200$$

$$C_2 = 140$$

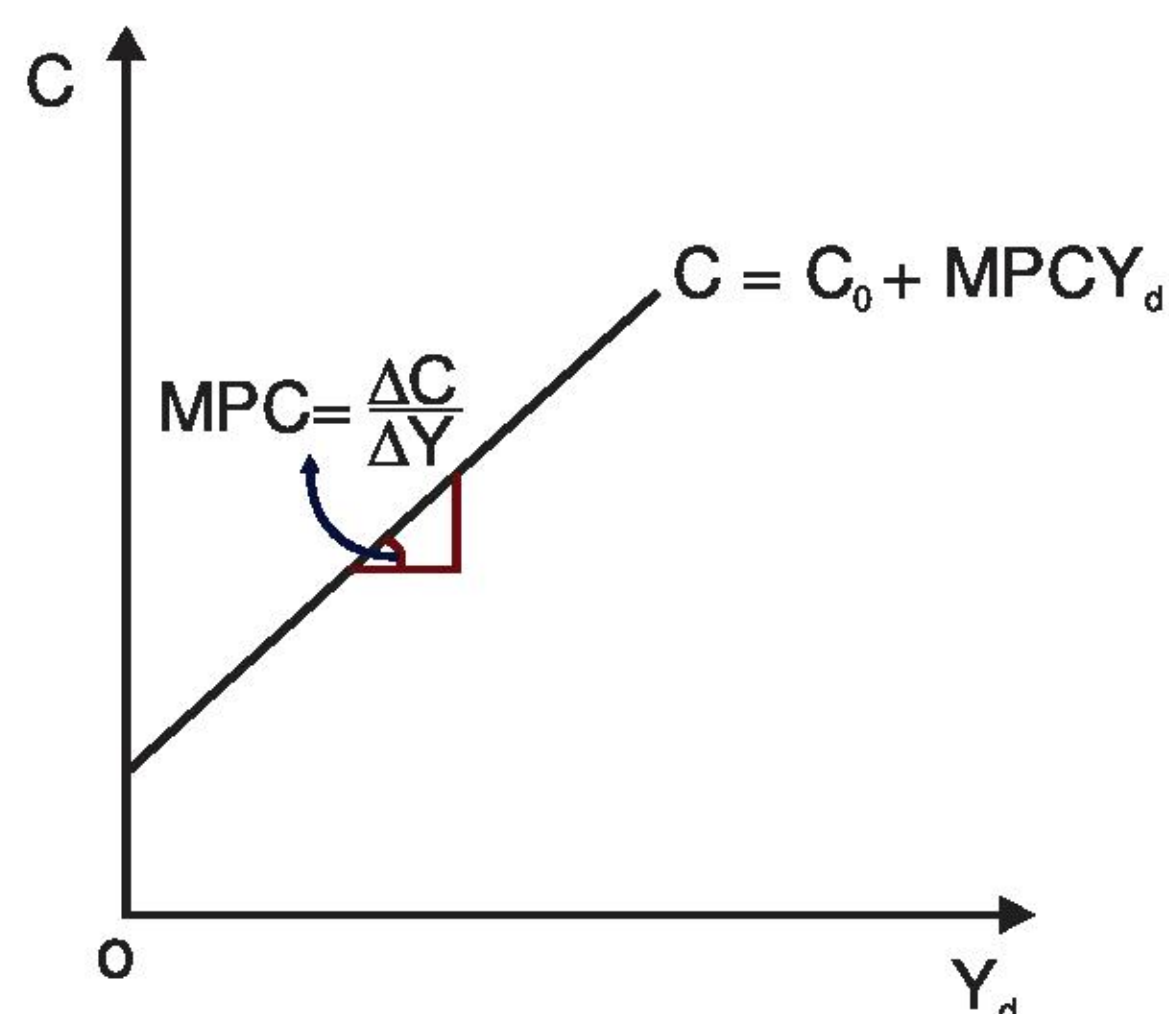
$$\Delta C = 80$$

$$\Delta Y = 100$$

$$MPC = \frac{80}{100} = 0.8$$

Graphical Determination of MPC:

The MPC shows what happens to consumption as income rises. It can therefore be calculated as the slope (gradient) of consumption function, between two points.



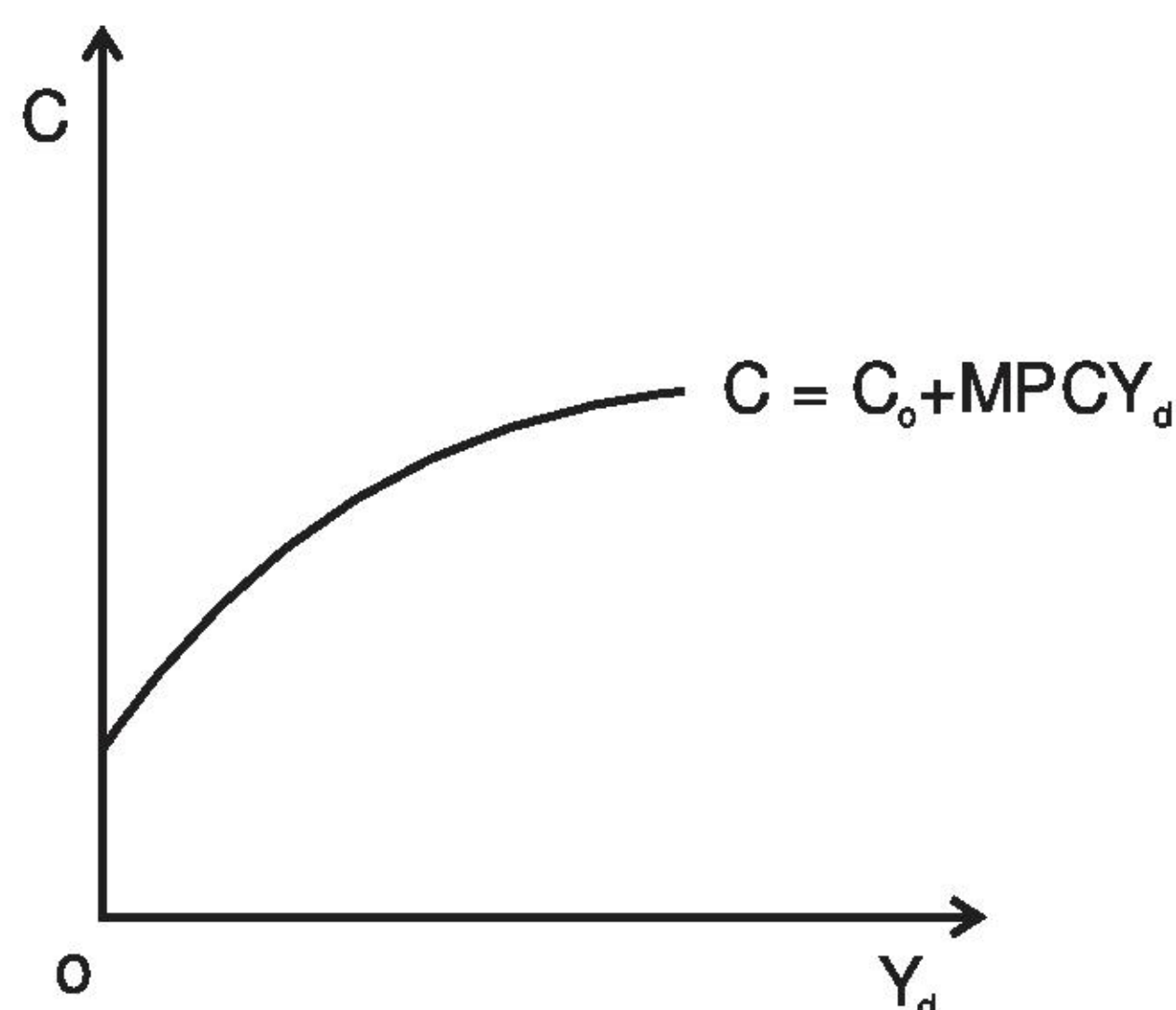
As income rises from 'Y₀' to Y₁, change in consumption would be MPC. Consider rectangular triangle 'abd' in the diagram. Gradient of this triangle is:

$$\text{Slope} = \text{Gradient} = \frac{\text{Rise}}{\text{Run}} = \frac{\Delta C}{\Delta Y_d} \text{ which is equal to MPC}$$

MPC can be derived from consumption function graphically by taking tangents at different points of consumption function.

As we know that gradient of straight line is constant therefore a straight-line consumption function will have constant MPC between any two levels of national income.

However consumption function is not straight line in reality. According to Keynesian Consumption function, with increase in income, consumption increases but with a decreasing rate.



It is evident from the above graph that MPC will decrease with every rise in national Income. Therefore

$$MPC_{\text{Poor}} > MPC_{\text{Rich}}$$

(ii) Average Propensity to Consume (APC):

"It is the fraction of total disposable income that households wish to consume."

Mathematically:

$$APC = \frac{C}{Y_d}$$

MPC is the measure of change in consumption between two levels of disposable income while APC measures the total consumption at a certain level of disposable income.

e.g.

$$Y_1 = 100 \\ C_1 = 60$$

$$Y_2 = 200 \\ C_2 = 140$$

$$MPC = \frac{\Delta C}{\Delta Y} = \frac{80}{100} = 0.8$$

$$APC_1 = \frac{C_1}{Y_1} = \frac{60}{100} = 0.6$$

$$APC_2 = \frac{C_2}{Y_2} = \frac{140}{200} = 0.7$$

APC falls with Rise in 'Y_d' in Both A straight line and increasing with decreasing Rate Consumption Function?

As we know that

$$APC = \frac{C}{Y_d}$$

Where

$$C = C_0 + MPC Y_d$$

Putting value of 'C' in APC formula:

$$APC = \frac{C_0 + MPC Y_d}{Y_d}$$

$$= \frac{C_0}{Y_d} + MPC$$

Now in **straight-line consumption function**, although MPC is constant but $\frac{C_0}{Y_d}$ component of APC do fall with the rise in Y_d.

In case of **increasing with decreasing rate consumption function** APC falls with the rise in because of:

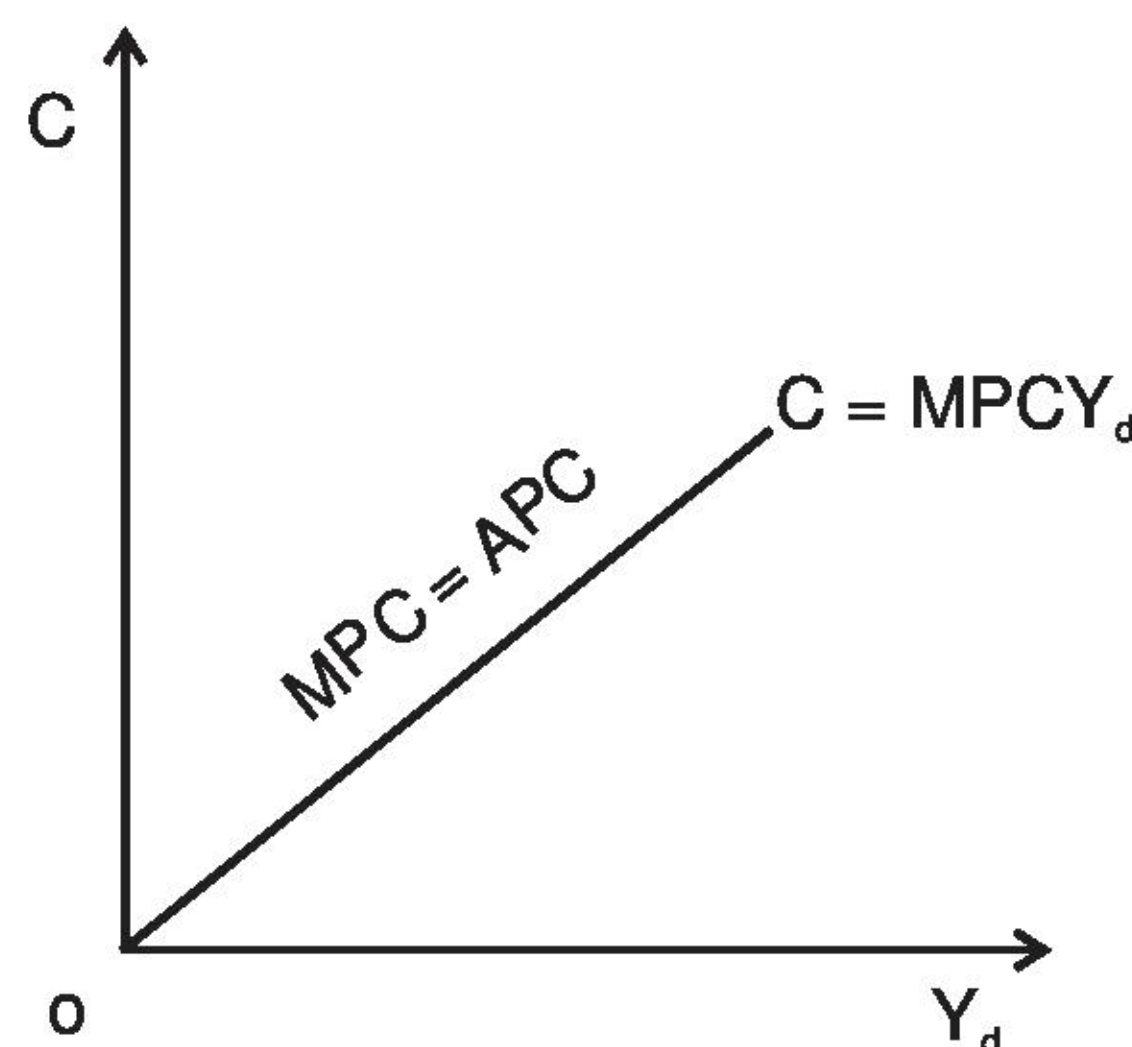
- $\frac{C_0}{Y_d}$ component of APC falls with the rise in Y_d.
- Fall in MPC with the rise in Y_d.

If there is **no autonomous consumption in straight-line** consumption function

$$APC = \frac{C_0}{Y_d} + MPC$$

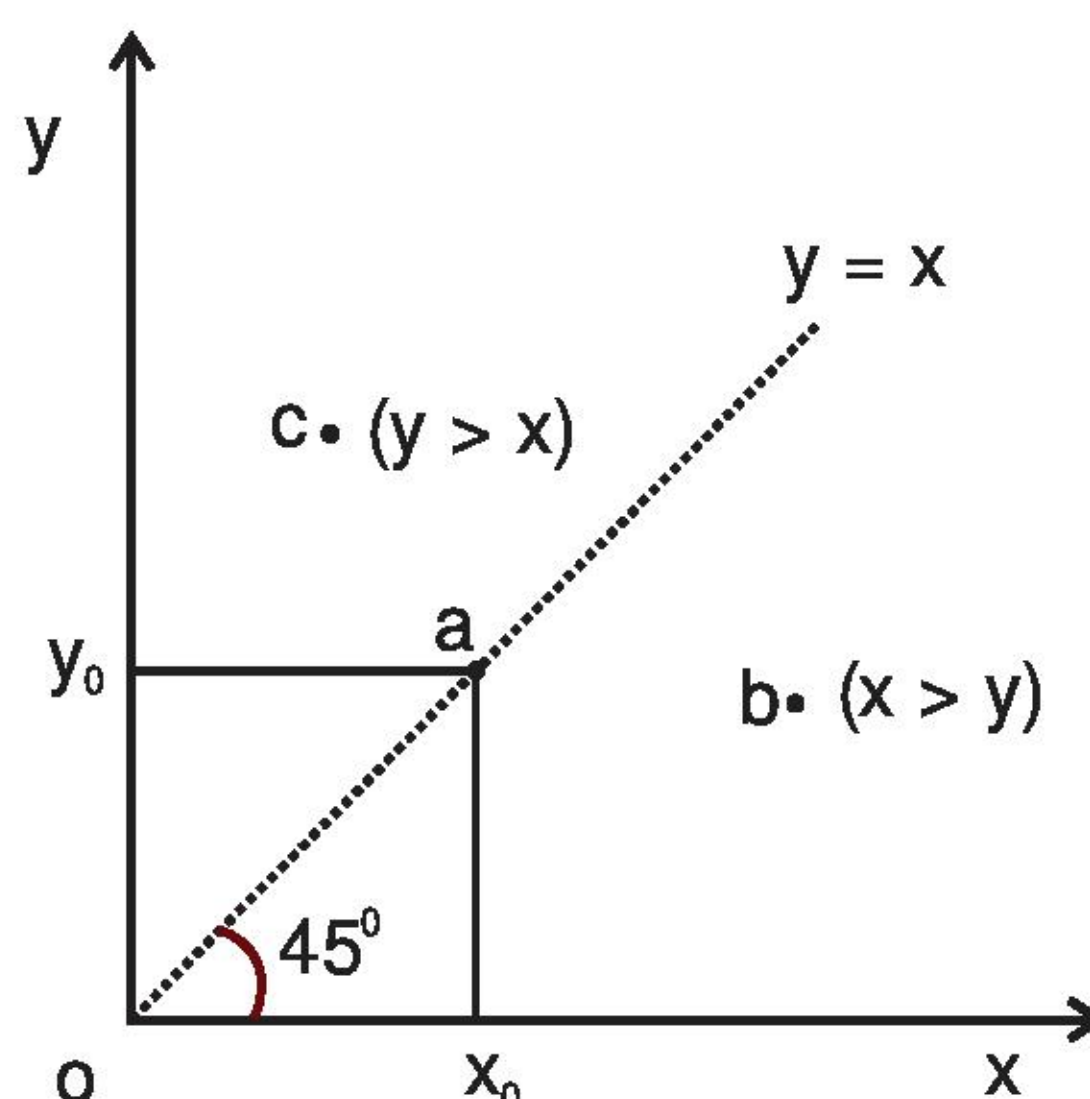
$$APC = 0 + MPC \quad \therefore \quad C_0 = \text{Zero}$$

$$APC = MPC$$



Introduction of 45° Line:

Let us draw a 45° dotted line northeast from the origin.



45° line shows all the points of equality between x and y -axis. According to very special property of 45° line, at any point on the 45° line, the distance up from the horizontal axis exactly equals the distance across from the vertical axis. You can use your eyes a ruler to verify this fact.

Those points which lie below 45° line towards x -axis show that:

$$x > y \quad \text{e.g., at point 'b.'}$$

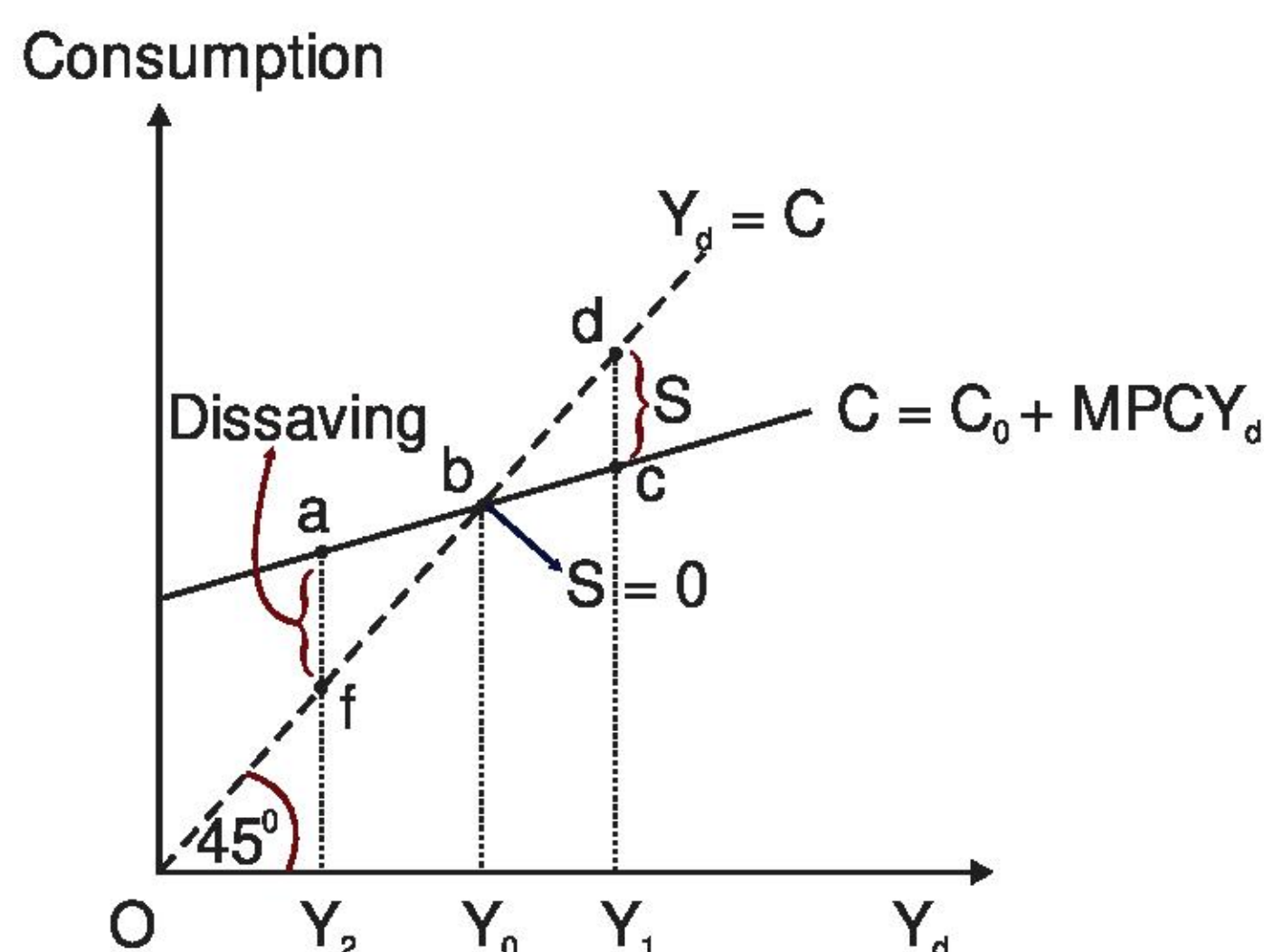
And all those points which lie above 45° line towards y -axis show that:

$$y > x \quad \text{e.g., at point 'c.'}$$

Use of 45° line In Consumption

Here, 45° line shows all the points of equality between consumption and income axis.

Therefore, all the points on 45° line shows that $C = Y_d$. Similarly all those points which lie rightward to 45° line show that $Y_d > C$ and points leftward to 45° line show that $C > Y_d$.



Relationship b/w consumption, saving and disposable income can be explained through the use of 45° line in consumption function.

The 45° line tells us immediately whether consumption spending is equal to greater than, or less than the level of disposal income. The break-even point on the consumption schedule that intersects the 45° line represents the level of disposable income at which households just break even.

This break-even point is at 'b' in figure. Here, consumption expenditure is exactly equal to disposable income: the household is neither a borrower nor a saver. To the right of point B, the consumption function lies below the 45° line. e.g.

At point 'c' on consumption function, $Y_d = OY_1 = dY_1$ but consumption is equal to cY_1 . It means $Y_d > C$ and there must be savings.

What a household is not spending, it must be saving. The 45° line enables us to find how much the household is saving. Net saving is measured by the vertical distance from the consumption function up to the 45° line. as shown by the distance 'dc'.

The 45° line tells us that to the left of point 'b' the household is spending more than its income. The excess of consumption over income is "dissaving" and is measured by the vertical distance between the consumption function and the 45° line.

To review:

At any point on the 45° line, consumption exactly equals income and the household has zero saving. When the consumption function lies above the 45° line, the household is dissaving. When the consumption function lies below the 45° line, the household has positive saving. The amount of dissaving or saving is always measured by the vertical distance between the consumption function and the 45° line.

Note:

45° line is used in consumption function to show savings, Break-even and dissavings and in Aggregate Expenditure graph to determine equilibrium National Income only. Never use 45° line in saving function or withdrawal/Injections mode.

Changes in Consumption Function

Endogenous Factor	Exogenous Factors		
	Autonomous shift	Induced shift	Autonomous and induced shift

Other Determinants of Consumption

Of course, people's incomes not the only determinants of the amount they consume. There are several other determinants:

- **Wealth:** An increase in the value of people's assets is likely to encourage people to spend more (wealth effect). The main asset which most people own is their house. If house prices rise people feel able spend more. They are able to borrow more on the strength of the value of their property. Rising house prices also tend to stimulate activity in the housing market and create a feel good factor. When people move house they tend to spend more on a range of goods and services including furniture, fittings and DIY equipment.
- **Direct Taxes:** The higher the level of taxes, the less will people have left to spend out of their gross income: consumption depends on disposable income. If taxes are raised how much will

consumption fall? This depends on the marginal propensity to consume. The bigger the MPC, the more will consumption fall.

- **Indirect Taxes:** A rise in indirect taxes will be likely to reduce consumption.
Indirect Tax $\rightarrow$ Real income $\downarrow \rightarrow C \downarrow$
- **Expectations of Future Income:** If people expect a rise in their incomes in the future they are likely to spend more now. If, on the other hand they are uncertain about their future income prospects, or fear unemployment, they are likely to be cautious in their spending.
- **Inflation/Expectations of Prices:** The effects of inflation are uncertain. People may be tempted to bring forward their purchases of cars, washing machines and other items if they expect their prices to continue to rise. However, this tendency may be more than offset by a desire to save more to maintain the real value of savings.
- **Distribution of Income:** The poor have a higher MPC and APC than the rich. A redistribution of national income from the poor to the rich will therefore tend to reduce the total level of consumption in the economy.
- **Availability and Cost of Credit:** The easier and cheaper it is to borrow, the more people are likely to spend. When people spend more than they earn they are said to be dissaving.
- **Range of Goods and Services:** The greater the range of goods and services and the higher their quality the more likely to spend.
- **Age structure:** Middle –aged people tend to spend a lower proportion of their income than the young.
- **Taste and Attitude:** If people have a 'buy now, pay later' mentality, or a craving for consumer goods, they are likely to have a higher level of consumption than if their tastes are more frugal. The more 'consumerist' and materialistic a nation becomes, the higher will its consumption be for any given level of income.
- **The age of durables:** If people's car, carpets, clothes, etc., are getting old, they will tend to have a high level of 'replacement' consumption. This is particularly likely after a period of recession during which people had cut back on their consumption of durables. Conversely, as the economy reaches the peak of the boom, people will probably spend less on durables as they will have already bought the items they wanted.
- **Household's Debt**
- **Government Welfare Spending, etc.**

2: Saving Function:

It is the part of national income which households plan not to consume at present. Firms and Government also save but usually we are concerned with household's savings.

Saving Function:-

Saving function is the relationship between desired savings and national income. As

Y $\uparrow$ S $\uparrow$
Y $\downarrow$ S $\downarrow$

Therefore, mathematically

$$S = f(Y)$$

In equational form:

$$S = MPSY$$

When

$$Y = 0 \quad S = -S_0$$

Therefore

$$S = -S_0 + MPSY$$

Where

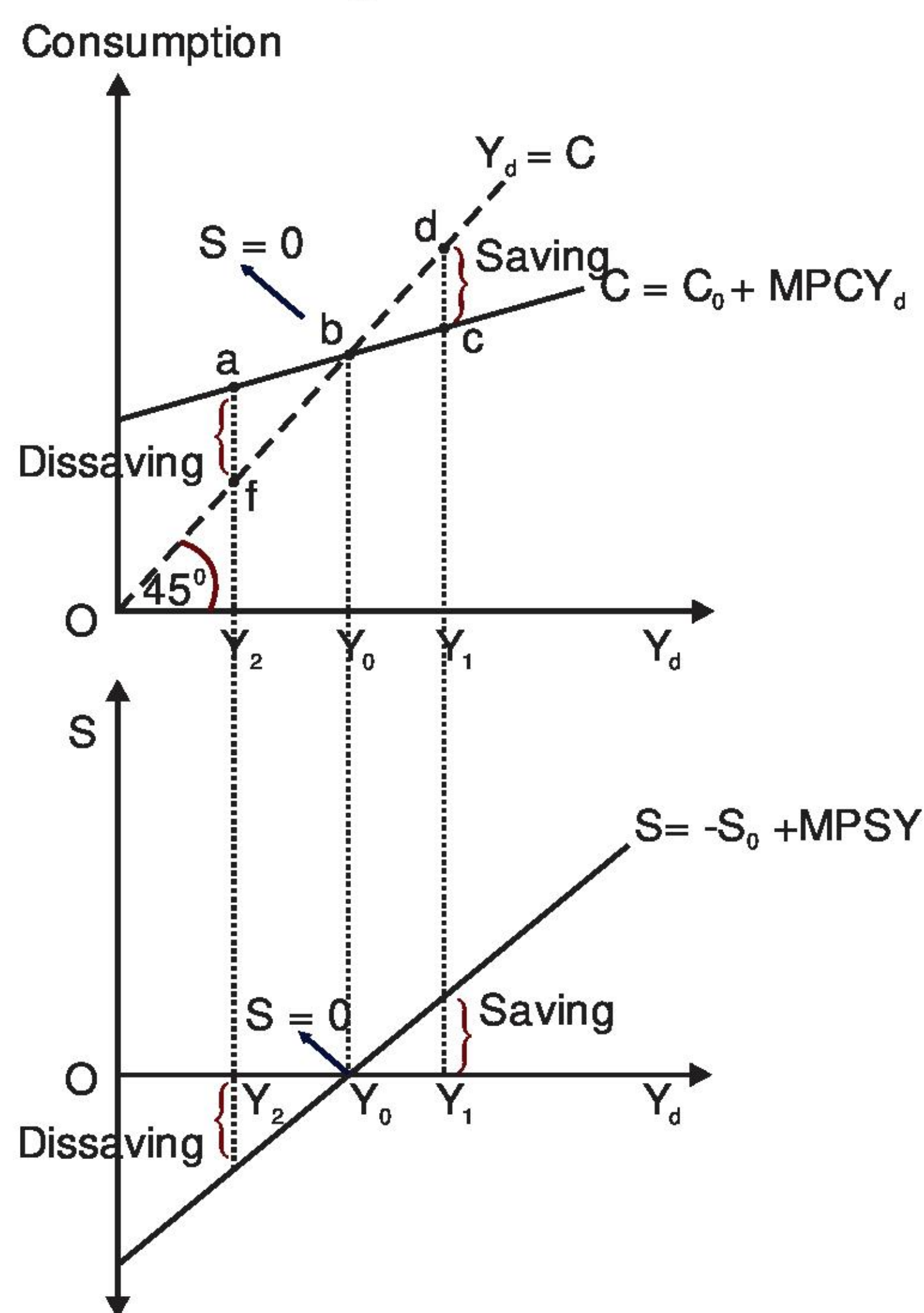
$-S_0$ = Dissaving $\rightarrow$ Amount required to finance autonomous consumption at zero level of national income.

$MPS = s$ = Marginal Propensity to save

$MPSY = sY$ = Induced Savings

This is shown graphically in Figure Again we show disposable income on the horizontal axis; but now saving, whether negative or positive in amounts, is on the vertical axis.

This savings function comes directly from consumption function. It is the vertical distance between the 45° line and the consumption function. For example, at point A in figure above, we see that the household's saving is negative because the consumption function lies above the 45° line. Figure above shows this dissaving directly – the saving function is below the zero savings line at point A. Similarly, positive saving occurs to the right of point B because the savings



Marginal Propensity to Save (MPS):-

"It is the fraction of each extra pound disposable income that households wish to save."

Or

It is the change in savings due to change in income.

$$MPS = S = \frac{\Delta S}{\Delta Y}$$

..

Graphical Determination of MPS

Graphically, MPC can be calculated as the slope or gradient of saving function

Relationship between MPC and MPS:

In 2-sector economy

$$Y = C + S$$

Multiplying both sides of above equation by 's'.

$$\Delta Y = \Delta C + \Delta S$$

Dividing both sides of 'ΔY'

$$\frac{\Delta Y}{\Delta Y} = \frac{\Delta C}{\Delta Y} + \frac{\Delta S}{\Delta Y} \quad \therefore \frac{\Delta C}{\Delta Y} = \text{MPC}, \quad \frac{\Delta S}{\Delta Y} = \text{MPS}$$

Hence

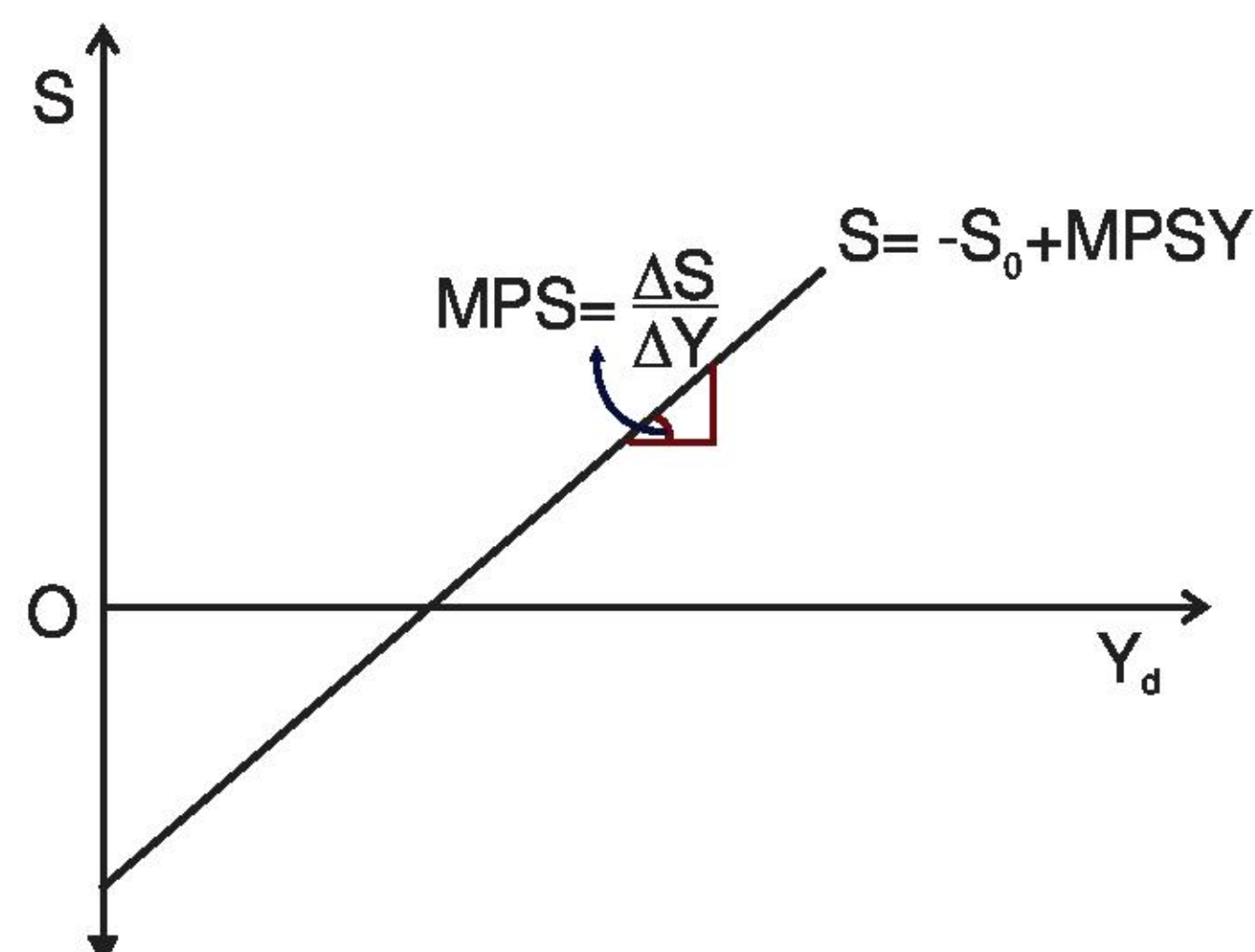
$$1 = \text{MPC} + \text{MPS}$$

$$\text{MPC} = 1 - \text{MPS}$$

$$\text{MPS} = 1 - \text{MPC}$$

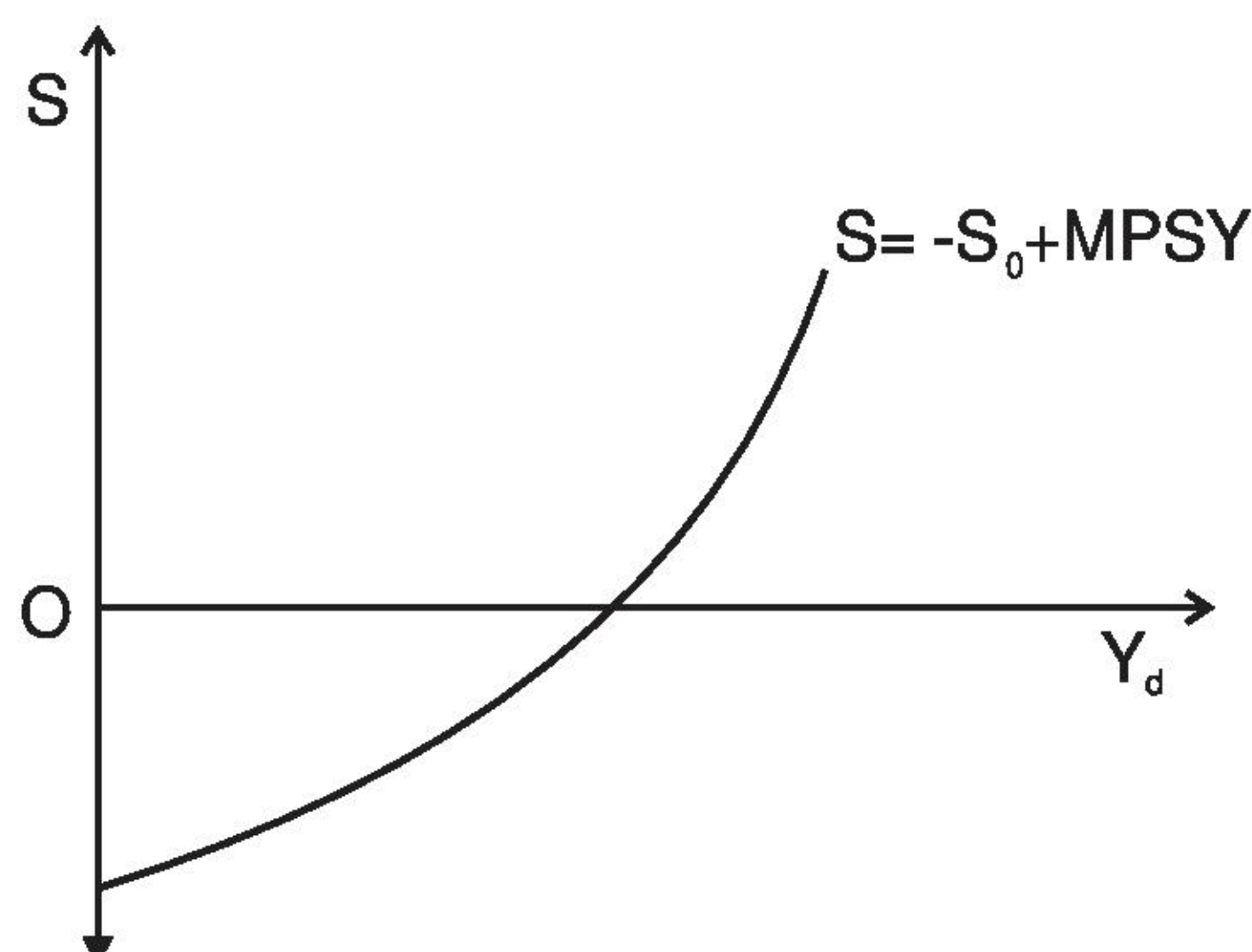
Therefore

$$\text{MPC} \downarrow \rightarrow \text{MPS} \uparrow$$



For straight-line consumption and saving functions, MPC and MPS remain constant with the change in national income but MPC falls and therefore MPS rises with the rise in national income in case of real consumption and saving functions.

$$\text{MPS}_{\text{Rich}} > \text{MPS}_{\text{Poor}}$$

**Average Propensity To Save (APS):**

It is the fraction total disposable income that households wish to save.

Mathematically:

$$\text{APS} = \frac{S}{Y}$$

Relationship between APC and APS

In 2 – sector economy

$$Y = C + S$$

Dividing both sides of equation by 'Y'.

$$\frac{Y}{Y} = \frac{C}{Y} + \frac{S}{Y}$$

$$1 = \text{APC} + \text{APS}$$

$$\therefore \frac{C}{Y} = \text{APC}, \quad \frac{S}{Y} = \text{APS}$$

$$\text{APC} + \text{APS} = 1$$

$$\text{APC} = 1 - \text{APS}$$

$$\text{APS} = 1 - \text{APC}$$

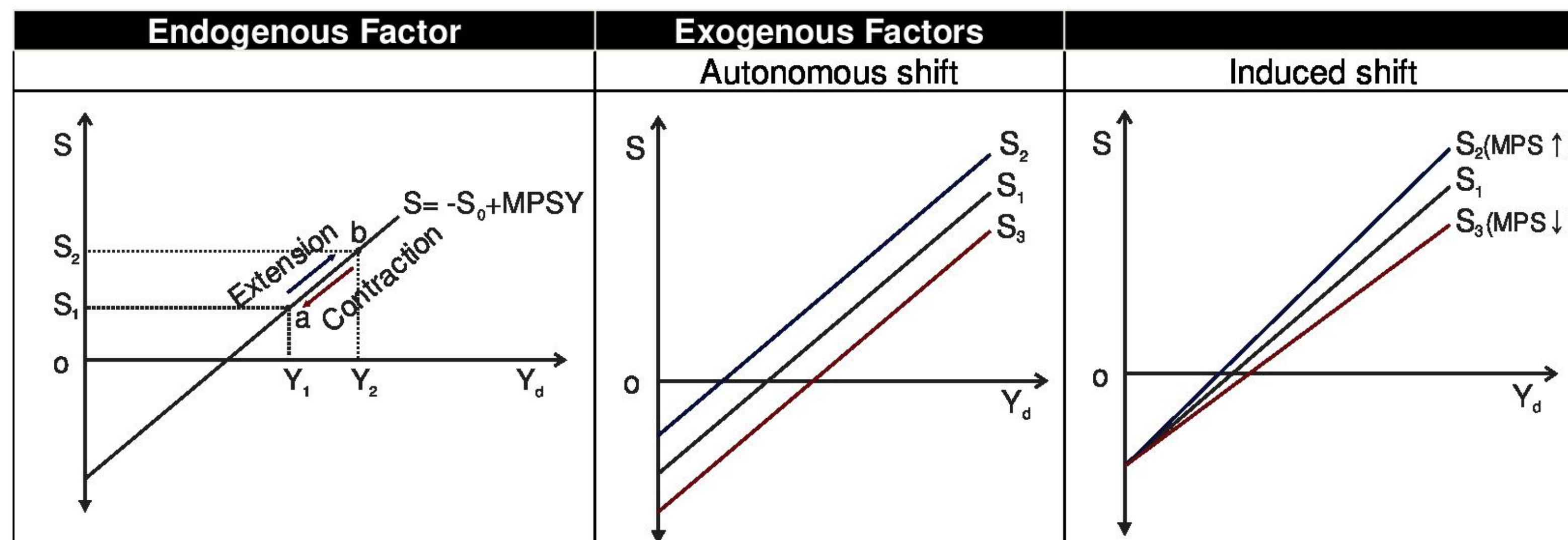
Therefore

$$\text{APC} \downarrow \rightarrow \text{APS} \uparrow$$

APS always increases with the rise in 'Y' irrespective of type of saving function. i.e. whether it is straight line or curved.

$$APS_{\text{Rich}} > APS_{\text{Poor}}$$

Changes in Saving Function:



Other Determinations of Savings

To a large extent these are the same as the other determinants of consumption, since most things that encourage people to spend more will thereby encourage them to save less.

It might be easy to get the impression that saving is merely that is left over after consumption has taken place. In fact for many people the decision to save is a very positive one. They might be saving up for something they are eager to buy but cannot afford at the moment, or saving for retirement. Thus factors which affect people's attitudes towards saving (such as changes in pension provisions, or new government-sponsored saving schemes) could shift the net saving function. However, saving and consumption are still closely linked, and what determines the one will usually determine the other.

- **Social Attitudes:** The prevailing social attitude towards thrift (the careful management of money) influences the level of saving. Where thrift is regarded as a virtue, more will be saved. In some societies people place a higher value on leisure and consumption and there less is saved.
- **The Range of Financial Institutions:** In developed economies, all kinds of institutions for the safe deposit of savings are available. Savings banks, commercial banks, insurance companies, and building societies are all widely known, easily accessible and usually have the confidence of the people. This range of opportunities not only stimulates savings but ensures that most of the potential saving is made available to borrowers. In some developing economies there is a lack of financial institutions or lack of institutions which have the confidence of the public.
- **The Rate of Interests** The most cases a rise in the rate of interest will increase saving. However it may reduce the amount saved by target savers (see below).
- **Government Policies** Government encourage saving by, for example, allowing a certain amount to be saved in tax free saving scheme, e.g., ISAs.
- **Inflation:** Inflation tends to reduce the real value of money wealth. So people may save more when inflation rises in order to maintain the real value of their savings.
- **Habit** People may get into the habit of savings, e.g., £50 a month. Changes in the rate of interest are not likely to affect this form of saving.
- **Contracts:** Constructural saving is carried out through insurance companies, pension funds, and building societies. The individual saver puts himself under a contractual agreement to pay a fixed annual sum (e.g., the insurance premium). Variations in the rate of interest will have little or no effect on existing contracts, although they might alter the nature of future contracts.
- **Targets:** Many savers have a definite target such as the deposit for a new home, the purchase price of a motor cycle, or the cost of a holiday abroad. Saving in order to accumulate a fixed and known sum of money is not likely to be likely to be influenced greatly by changes in the rate of

interest might well reduce the level of such saving since, at the higher interest rate, the required sum will accumulate at a faster rate.

- **Corporate Saving:** Companies save in order to build up reserves which will act as a cushion against future business fluctuations and provide funds for future expansion.
- **Government Saving:** A government saves when its income from tax revenue is greater than its expenditure. This may occur unexpectedly if the level of economic activity is higher than expected or it may result from deliberate government policy if the government raises tax rates and/or cuts government expenditure in order to reduce private

3. Tax Function

Before we describe the Tax-function, it must be noted that by 'Tax' we mean 'Net Tax' in the rest of our macroeconomic discussion.

$$\text{Net Tax} = \text{Tax Revenue} - \text{Transfer Payments}$$

We define net taxes to be total tax revenues received by the government minus total transfer payments made by the government, and we denote net taxes as T . (For convenience, when we use the term 'taxes' we will mean net taxes unless we explicitly state otherwise.) Since transfer payments are smaller than total taxes, net taxes are positive, and personal disposable income is less than national income.

Taxes are a withdrawal from the circular flow. All the main forms of tax are levied either upon incomes or upon spending. Thus, although the tax rates may be determined by the government, the amount of tax paid will depend upon the circular flow. Therefore taxes are a function of income and are an endogenous variable.

As $Y \uparrow \rightarrow T \uparrow$
 $Y \downarrow \rightarrow T \downarrow$

Then

$$T = f(Y)$$

$$T = \text{MPTY}$$

Where

$t = \text{MPT} = \frac{\Delta T}{\Delta Y}$ = Marginal propensity to Tax = slope (gradient) of Tax function = It is the function of an extra pound increase in households income that government plan to collect in tax.

$$tY = \text{MPTY} = \text{Induced Tax}$$

If $Y = 0 \rightarrow T = T_0$

Where

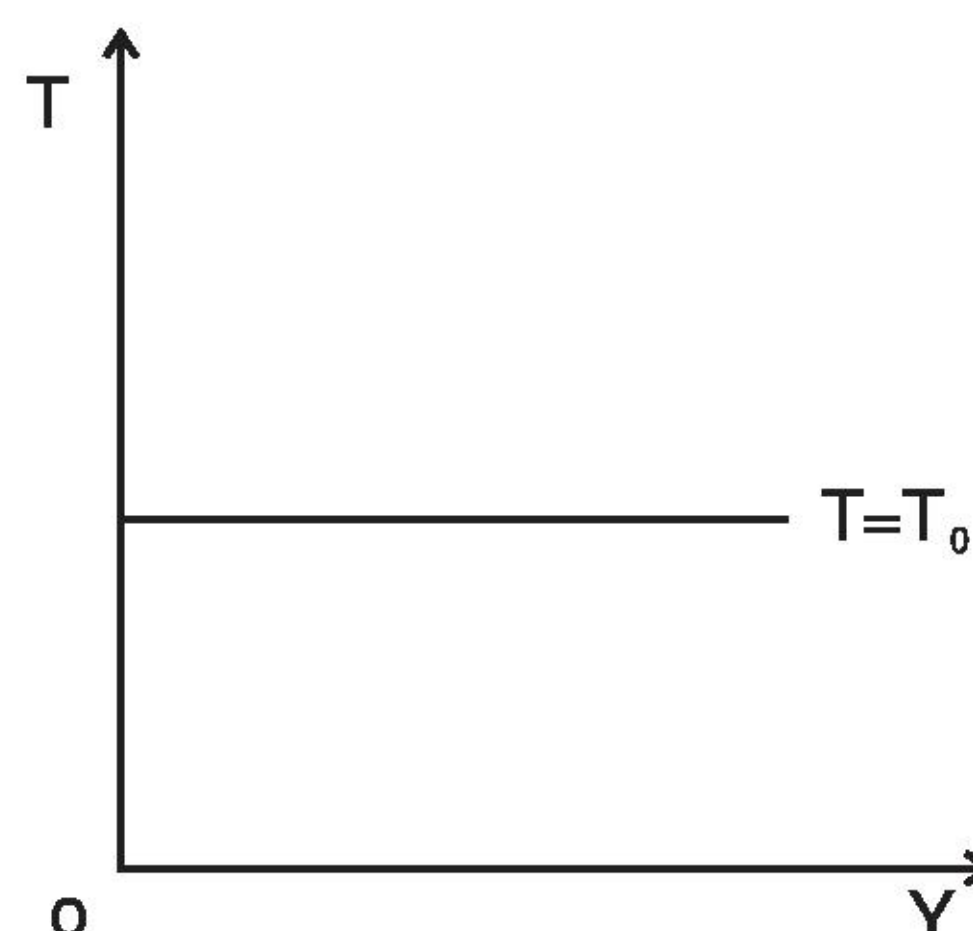
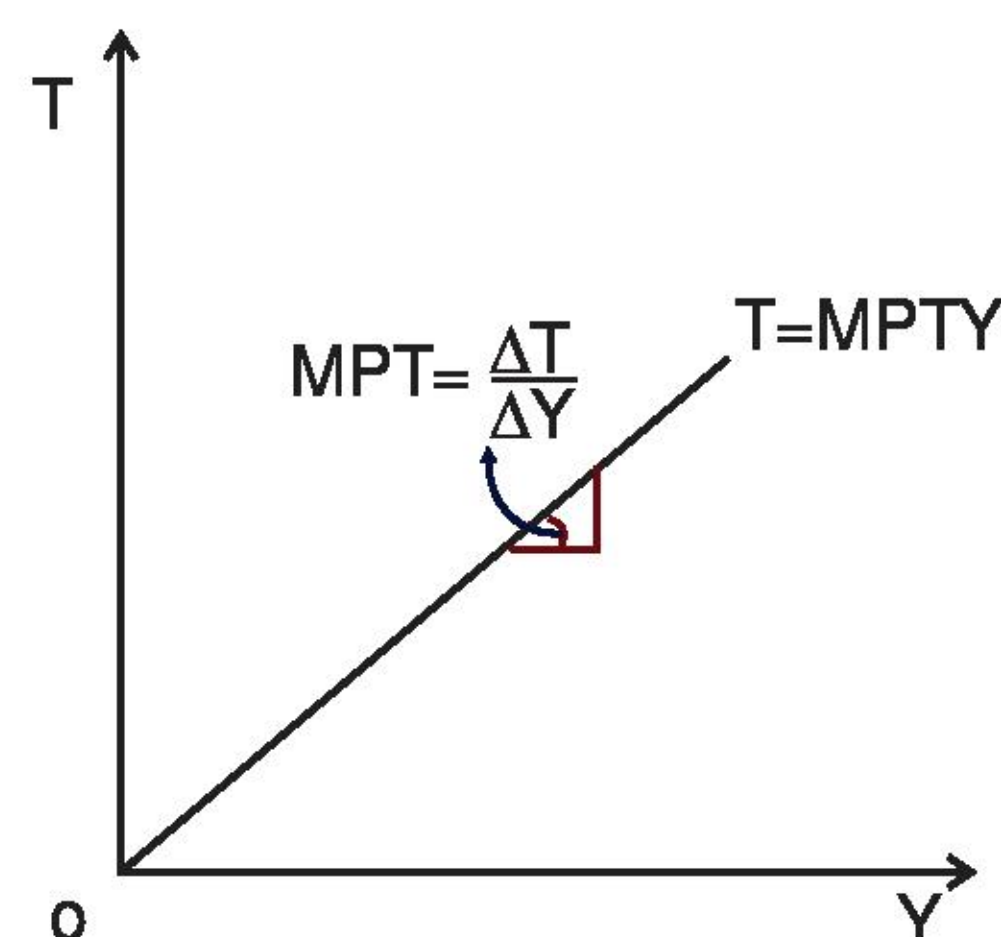
T_0 = Autonomous Tax.

We will suppose that either $T = T_0$ or $T = \text{MPTY}$ for simplicity in later discussions.

Average Propensity To TAX (APT):

"It is the fraction of total household's income that government plan to collect in tax"

$$\text{APT} = \frac{T}{Y}$$



Rate of Tax and APT:

Rate of Tax is measured by the percentage of households income taken in tax, i.e.,

$$\text{Rate of Tax} = \frac{\text{Amount of Tax}}{\text{Household's Income}} \times 100 = \frac{T}{Y} \times 100$$

On the other hand APT is the fraction of households' total income taken, i.e.,

$$APT = \frac{\text{Amount of Tax}}{\text{Household's Income}} = \frac{T}{Y}$$

Therefore APT can be used as a measure of rate of Tax, with the only difference that APT is measured in fraction while rate of Tax is measured in percentage.

Distinction between Tax Revenue and Rate of Tax:

Tax revenue is the amount of money called by taxation, while rate of Tax is described above, is to the proportion of income taken in Tax. Tax revenue can rise with rise in income even if the rate of Tax is constant. e.g.,

$$\begin{aligned} Y_1 &= \$1000 \\ \text{Rate of Tax} &= 10\% \\ \text{Tax revenue} &= 10\% \text{ of } 1000 \\ &= \$100 \end{aligned}$$

$$\begin{aligned} Y_2 &= \$2000 \\ \text{Rate of Tax} &= 10\% \\ \text{Tax Revenue} &= \frac{10}{100} \times 2000 \\ &= \$200 \end{aligned}$$

4. Import Functions

Imports (M):

"Goods and services produced by foreigners but purchased by domestic residents are known as imports" e.g., Imports of Pakistan include oil, electronic goods, automobiles, machinery, educational services, tourism etc

Higher the level of national income, higher will be the level of imports. The import function, like other functions we have studied, is a positive function of national income.

$$\begin{aligned} \text{As } Y \uparrow &\rightarrow M \uparrow \\ Y \downarrow &\rightarrow M \downarrow \end{aligned}$$

Then

$$\begin{aligned} M &= f(Y) \\ M &= MPMY \end{aligned}$$

Where

$MPM = m = \frac{\Delta M}{\Delta Y}$ = Marginal propensity to import = gradient of import function = It is the fraction of an extra pound increase in household's income which they plan to spend on imported goods and services.

$mY = MPMY$ = Induced Imports = It is the part of total imports which increase with the rise in national income and vice versa.

$$\text{If } Y = 0 \rightarrow M = M_0$$

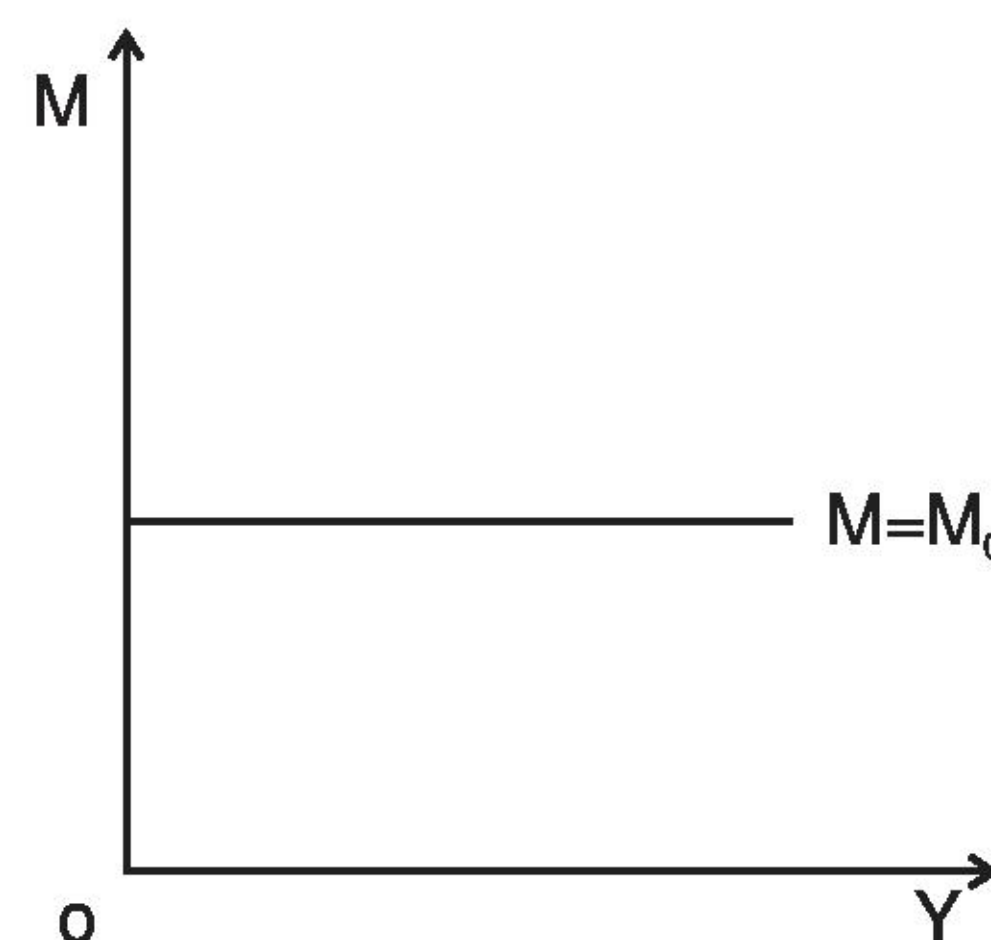
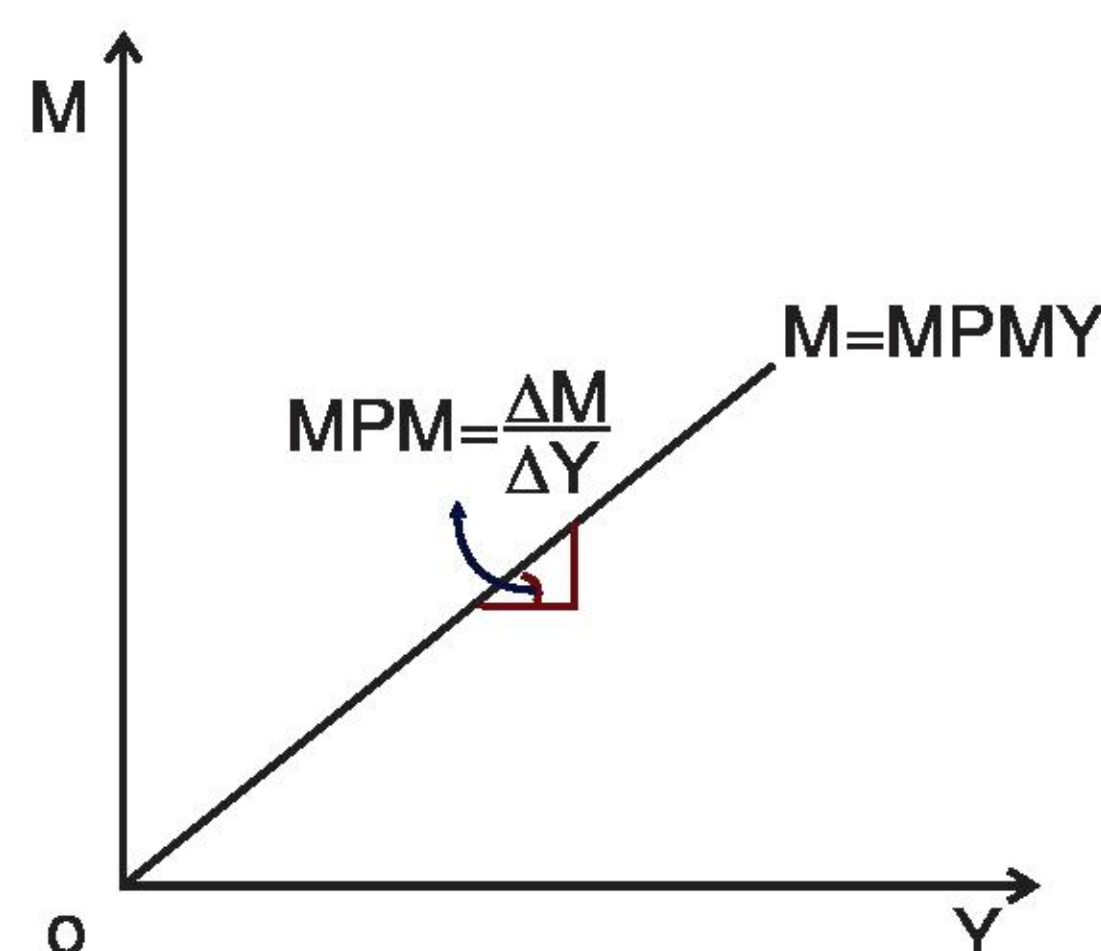
Where

M_0 = Autonomous Imports = The part of total imports which is independent of level of domestic income is known as autonomous imports.

We will suppose that either $M = M_0$ or $M = MPMY$ for simplicity in later discussions.

Average Propensity to Import (APM):

It is the fraction of total household's income which they plan to spend on imports, i.e., $APM = \frac{M}{Y}$



Determinants of Imports

Level of imports can either change by movement along the same import function (due to change in national income) or it might shift the whole import function (due to other determinants).

Price Competitiveness of Imports: If the prices of home-produced goods go up relative to the prices of imports, the level of imports will rise. The rate of exchange is a major influence here; the higher the rate of exchange, the cheaper will imports be and hence the more will be spent on them.

Tastes/Fashion: If consumer tastes shift towards foreign goods and services, imports will rise. For example, it might become more popular to go abroad for your holidays.

Relative Quality: If the quality of foreign goods and services increase relative to that of UK goods and services, imports will rise.

Exchange Rate:

Depreciation	-	Imports	-	Expensive, $M \downarrow$
Appreciation	-	Imports	-	Cheaper, $M \uparrow$

Trade Relations: Tariff, Quota's, Free Trade agreements etc

Determinants of Consumption:

Since imports of goods and service are part of total consumption i.e.

Total Consumption (C_t) = Consumption of Domestic (C_d) + Consumption imported goods and services (C_m).

5. Exports Function

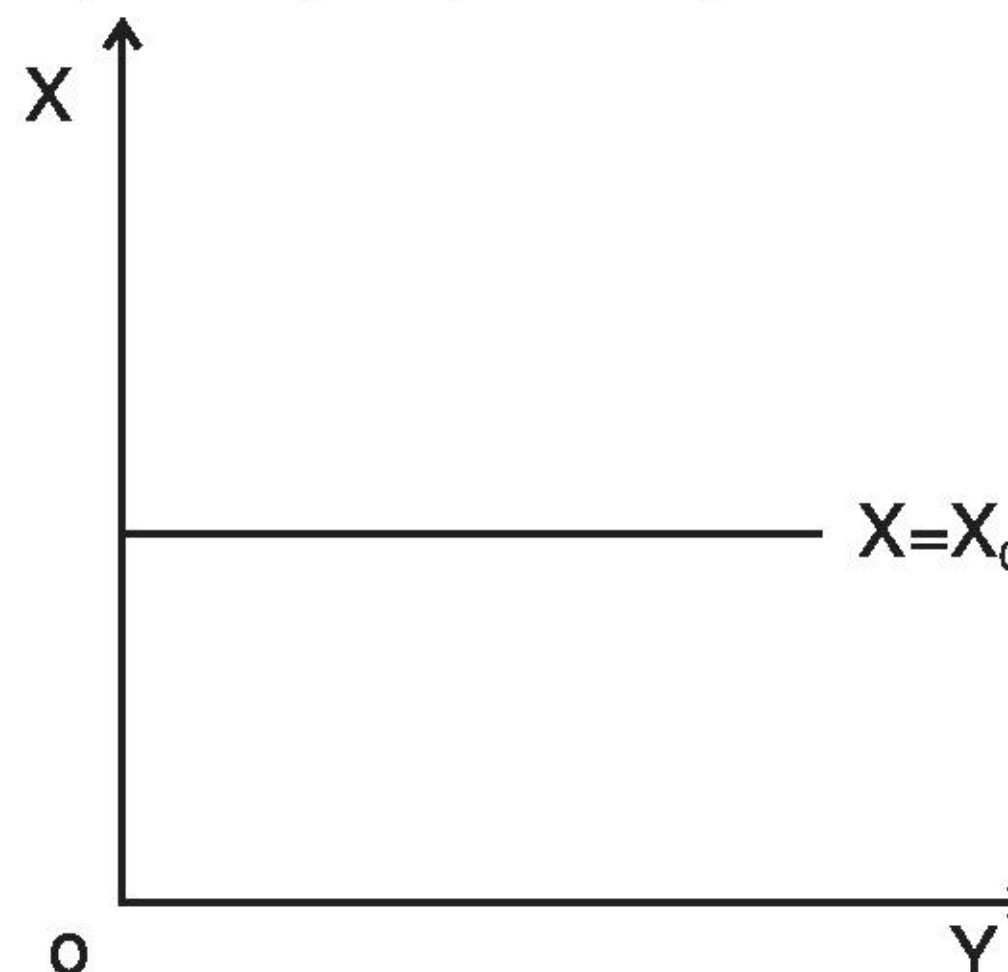
Exports(X):

"Goods and services which are domestically produced but sold to the foreigners are known as exports." e.g., exports of Pakistan include sports goods, textile, surgical goods, cotton, rice, tourism, etc.

Exports are independent (autonomous) of domestic income because their demand is made by foreigners. Therefore, it is the level of income of the rest of the world that determines the level of exports of our country rather than the domestic income level.

Hence:

$$X = X_0$$



Determinants of Exports

1. Foreign income
2. Price competitiveness of exports.
3. Quality of exports
4. Trends towards exports
5. Trade relations (i.e., Free Trade Area, Tariff Quota etc)
6. Exchange rate (Depreciation or Appreciation), etc.

These determinants may shift exports function either upward or downward depending upon the nature and direction of change.

Net Exports:

It is the difference between exports and imports.

Net Exports = Exports – Imports

Value of net exports is also known as Balance of current account.

Balance of current account = Net Exports		
Surplus	Deficit	Balanced
Exports > Imports	Exports < Imports	Exports = Imports

Net Exports Function:

"It is the relationship between net exports and national income.

AS

$Y \uparrow \Rightarrow X = X_0 = \text{Constant}$ but $M \uparrow \Rightarrow (X-M) \downarrow$

Exports depend on spending decisions made by foreign consumers or foreign firms. Typically, therefore, exports will not change as a result of changes in national income. They are autonomous or exogenous expenditures, from the point of view of our national income.

Imports, however, depend on the spending decisions of domestic residents. Most categories of expenditure have an import component; local-made goods use large quantities of imported components and raw materials in their manufacture. Thus, imports rise when the other categories of expenditure rise. Because consumption rises with income, imports of foreign-produced consumer goods, and materials that go into the production of domestically produced consumer goods, also rise with income.

Desired net exports are negatively related to national income because of the positive relationship between desired imports and national income.

If $X_0 = \$900$ and $MPM = 0.3$ then:

Y	X_0	$M = MPMY = 0.3Y$	$X_0 - M$
\$1000	\$900	$= 0.3(1000) = \$300$	+600
\$2000	\$900	$= 0.3(2000) = \$600$	+300
\$3000	\$900	$= 0.3(3000) = \$900$	0
\$4000	\$900	$= 0.3(4000) = \$1200$	-300

At Y_0

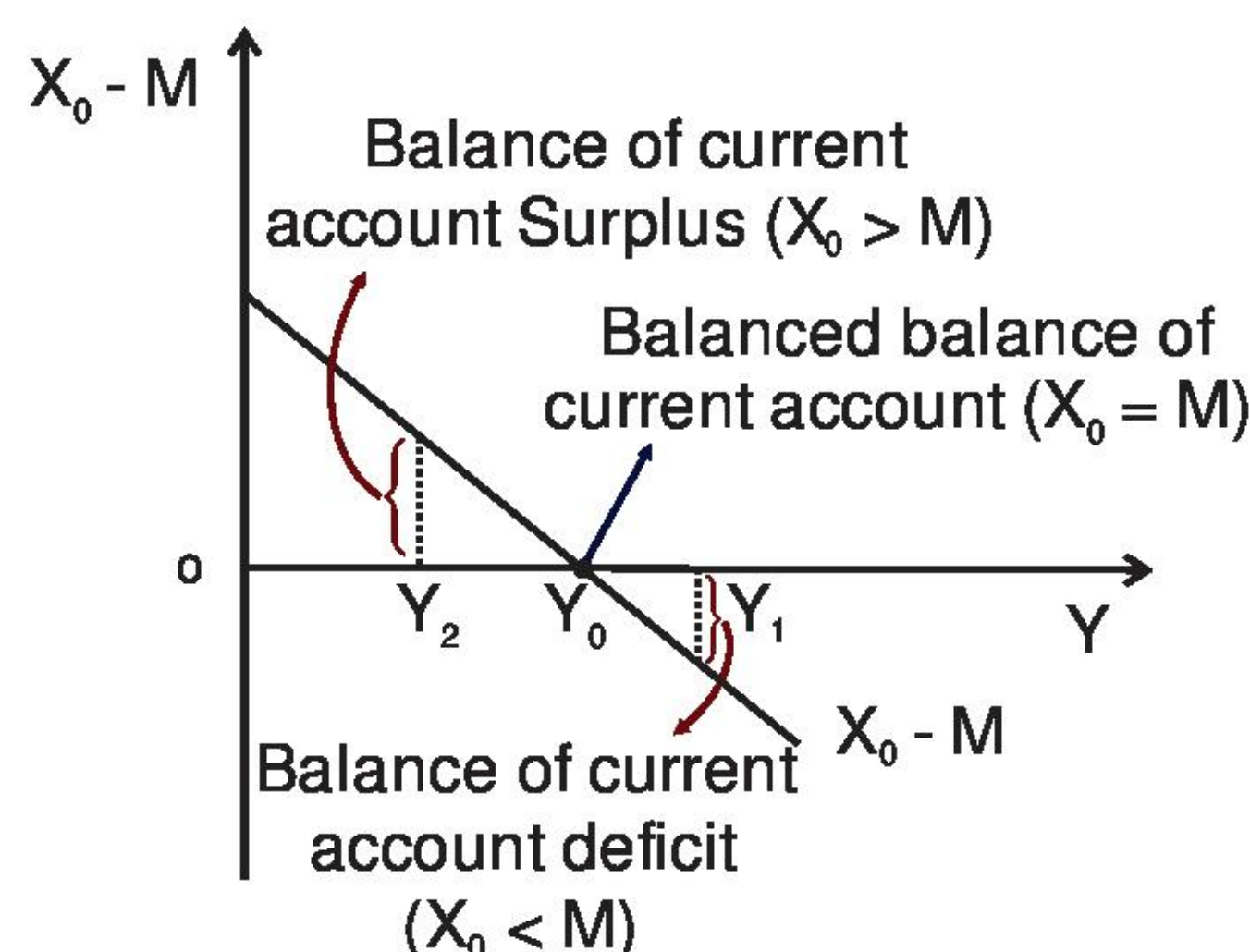
$X_0 = M$ i.e. $X_0 - M = 0$, Balance of current account is balanced at ' Y_0 '.

At Y_1

$X_0 < M$ i.e. $X_0 - M = -ve$ value, Balance of current account is deficit at ' Y_1 '

At Y_2

$X_0 > M$ i.e. $X_0 - M = +ve$ value, balance of current account is surplus at Y_2 .



Changes in Net Exports

We have seen that the net export function relates net exports ($X_0 - M$), which we also denote NX , to national income. It is drawn on the assumption that everything that affects net exports, except domestic national income, remains constant. The major factors that must be held constant are foreign national income, relative international price levels, and the exchange rate. A change in any of these factors will affect the amount of net exports that will occur at each level of national income and hence will shift the net export function.

6. Government Expenditure Function:

Government expenditure is spending by the public sector, i.e., expenditure by the central and local government.

Government Expenditure			
Government Expenditure on goods and services. (G)		Government Expenditure on welfare or Debt – financing	
Current Expenditure	Capital Expenditure	Transfers	Debt-Interest
e.g., medicines, uniforms, salaries	e.g., hospitals, roads, etc	e.g., pensions, unemployment benefits	Interest on bonds and saving certificates

Government expenditure can be divided into four main categories as follows:

- 1. Current expenditure.** This is spending on the day-to-day running of the public services, e.g., spending on teachers' pay, the purchase of textbooks doctors' and nurses', pay the purchase of medicines, the pay of those in the armed services and the purchase of uniforms.
- 2. Capital expenditure.** This is spending on the social infrastructure and includes e.g. spending on new hospitals, new schools and roads. Capital expenditure adds to the country's capital assets.
- 3. Transfer payments.** These are payments to, e.g., pensioners, the unemployed and subsidies to producers. They are designed to provide income or increase the income of vulnerable.
- 4. Debt Interest.** This is payment to the holders of government debt, e.g. National Savings Certificates, government bonds.

Categories 1 and 2 involve the direct use of resources by the government. The government decides what is to be produced and employs the resources of land, labour, and capital to provide the goods and services. As these forms of spending make use of resources they are sometimes referred to as exhaustive expenditure. In contrast categories 3 and 4 may be referred to as non-exhaustive expenditure. They involve the transfer of economic purchasing power from taxpayers to recipients of welfare payments, some producers and holders of national debt. In the case of non-exhaustive expenditure it is those who receive the transferred income who decide what goods and services are produced.

Government current and capital expenditure (Exhaustive) is a part of GDP and it is denoted by 'G'.

On the other hand, Transfer payments and Debt-Interest (Non-Exhaustive) also affects AE but only indirectly.

Any increase in government spending on goods and services will be a direct injection into the circular flow of income just like investment or any other autonomous component of AE.

But Transfer and interest paid by government will change the disposable income of recipients e.g. state pensions, unemployment benefits paid by government will raise the disposable income of recipients and consequently induce their consumption according to their MPC. Therefore, to avoid counting it twice, Non-exhaustive government spending are not recorded under 'G'. Rather 'Transfers' are directly deducted from the Tax revenue collected by government

This distinction between transfers and government spending on goods and services is important when it comes to issues such as how much of national income is taken by government. Measuring the size of government to include transfers makes it look as though government's part in national output is much bigger than it really is. However, looking only at G makes the government's revenue needs look smaller than they are, since transfers must be financed by taxes or borrowing, just as expenditure on goods and services must be.

Determination of Government Spending on Goods and Services

Demand for government financial public goods and merit goods. Demand for the merit goods of health and education are particularly income elastic. As a society gets richer its inhabitants demand better and more extensive health and education provision.

- **Demand for private goods:** When demand for a range of private goods increases, demand for complementary government financed goods and services will rise. For example, the continuing rise in car ownership and use means existing roads in car ownership and use means existing roads have to be repaired more frequently and leads to calls for an increase in road building.
- **Changes in technology:** Improvements in technology have made more expensive operations such as multiple organ transplants possible, thereby increasing health care expenditure. Spending on education has risen with the purchase of computers by schools.
- **Political views:**
 - A government which believes that market failure can be significant and that government policy can be effective is likely to spend more than one which believes in the smooth working of markets and has concerns about the effectiveness of government policy.
- **Political cycles:**
 - Government spending tends to rise just before a general election as increase in spending on e.g. health care and education are likely to prove popular.
- **The risk of conflicts:**
 - In a situation of world stability, defense spending may fall. The decline in defense spending which followed the end of the cold war was referred to as the peace dividend. Some of the resources which had been used in the defense industry were transferred into the production of civilian goods and services which add more directly to welfare.

Functions of Government Expenditure

To a certain extent both the total and pattern of government expenditure will depend upon the political philosophy of the government. Nevertheless it is possible to identify the major functions of government spending.

1. The Provision of public and merit goods and services

Public goods, for example defense have to be paid for by the government. This is because it would not be possible to exclude non-payers from enjoying them. At least some people would act as free riders.

Most governments also subsidize some merit goods and provide others free at the point of use the intention is to increase their consumption.

The provision of public and merit goods and services is likely to redistribute income from the rich to the poor. This is because the cost is progressive the benefits received by the lower income groups will be greater than the financial contributions they make to the state.

2. The provision of social security

Social security is the largest single item of public spending in the UK and in a number of other countries.

Social security covers a wide range of benefits in the form of money grants. These transfers include state retirement pensions, child benefit, income support, family credit and sickness benefit. The government also provides a range of personal social services to assist the elderly and the disabled. The broad objectives of the system of social security are to ensure that every one is guaranteed some adequate minimum level of income and to prevent families from suffering undue hardship when their incomes fall due to some misfortune.

3. The Regulation of economic activity

The government intervenes in the economic activities of private sector firms to ensure that the firms act in the public interest. For example the Health and Clean food Acts control standards of hygiene in public and private premises. Town and country Planning Acts regulate trading practices in the business world. There are also numerous road traffic regulations. The government has to spend money to enforce these acts regulations.

4. Improving the efficiency of the allocation of Resources

The government provides grants and subsidies to influence the structure, performance and location of private sector companies. In the UK it also still operates some enterprises itself, for example the Bank of England. However, privatization has substantially reduced the number of industries owned by the state.

5. Influencing the level of economic activity:

Changes in government spending may be introduced to influence output, employment, prices, and the balance of payments. Government spending is one of the components of aggregate demand. Keynesian economists argue that if output and employment are low, the government should increase its own spending to raise aggregate demand and output by a multiple amount. New classical economists believe that a government should ensure that its spending does not cause inflation.

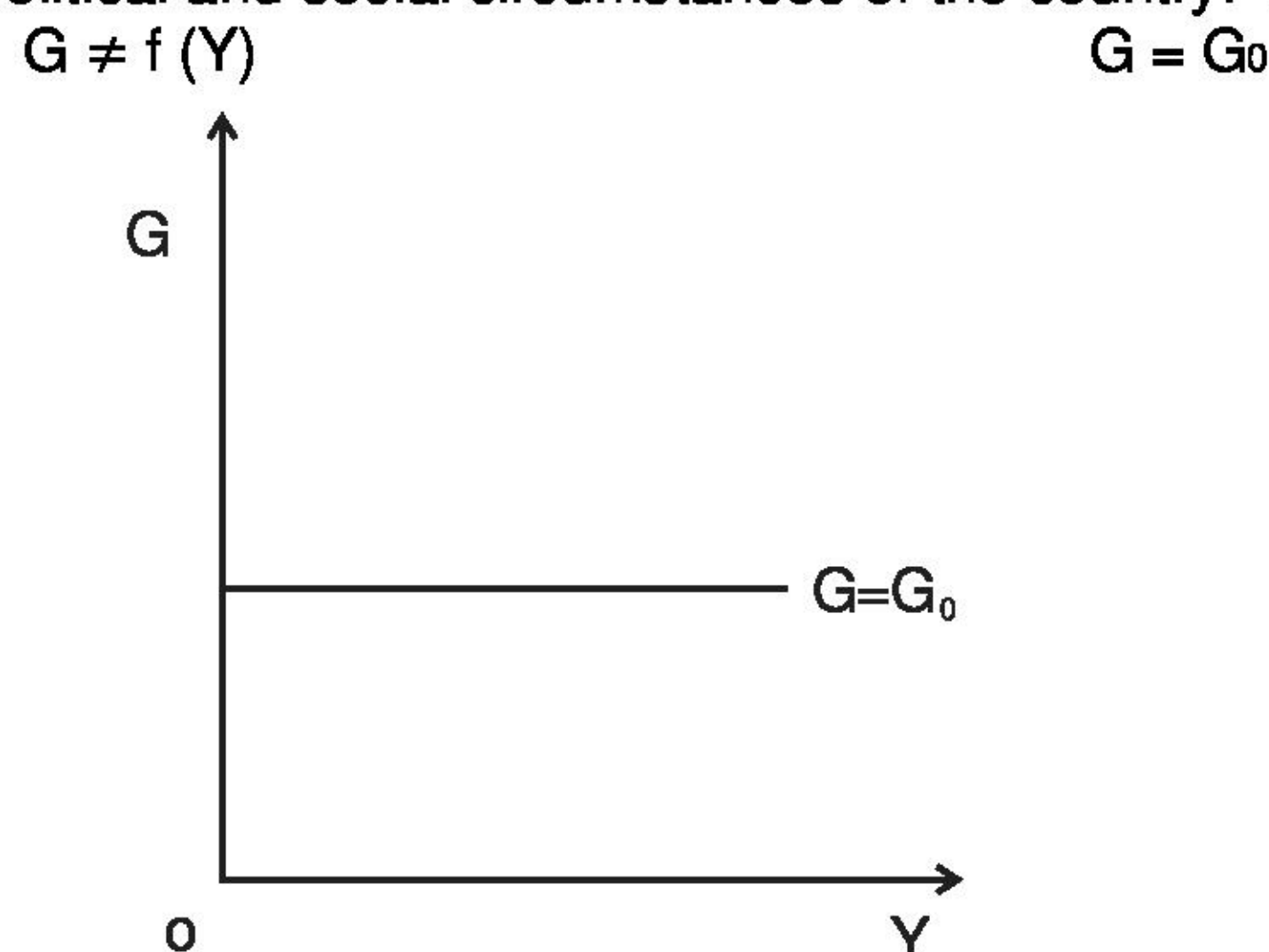
The Financing of government expenditure

Government expenditure is financed in various ways:

- Taxes levied on Individuals and Firms (Direct)
- Taxes levied on Expenditure (Indirect Taxes)
- National insurance contributions paid by employees, the self-employed and employers (these contributions are, in fact, a form of taxation).
- Borrowing
- Sales of assets

Government Spending Function:

Government spending on goods and services is independent of level of national income and is determined autonomously by according to political and social circumstances of the country. Therefore



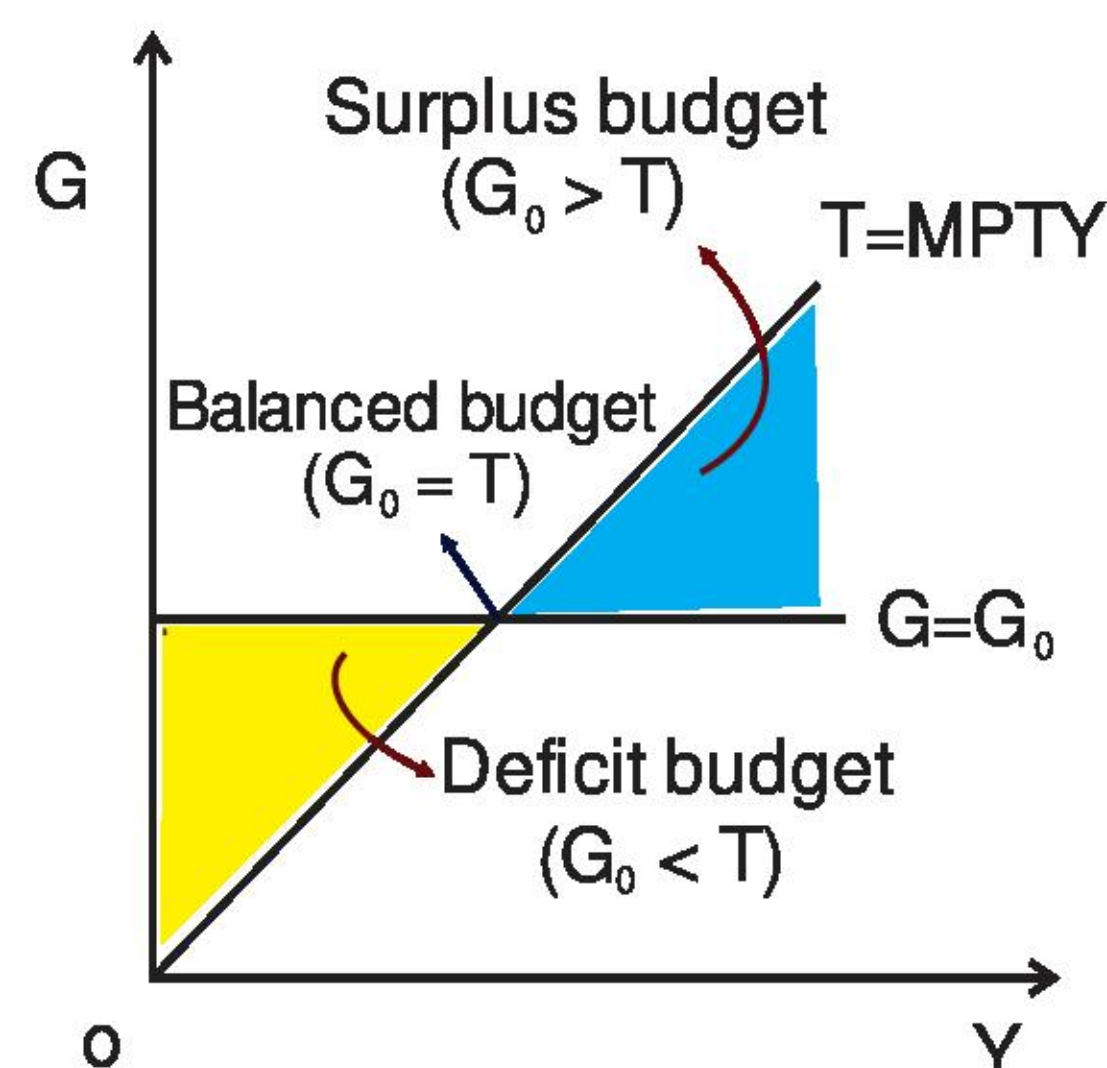
Any change in demand for government financial goods i.e. Public and merit goods, Technology, political views or political cycles etc will shift the Government spending function either upward or downward.

Government Budget:

A budget is a description of the spending and financing plans of an individual, a company, or a government

Government budget balance is the difference between total government revenue and total government expenditure, or, equivalently, it equals net taxes minus government spending $T-G$.

Government Budget Balance = $T - G$		
Budget Surplus	Budget Deficit	Balanced Budget
$T > G$	$T < G$	$T = G$
$T - G > 0$	$T - G < 0$	$T - G = 0$



When revenues exceed expenditure, the government is running a budget surplus. When expenditure exceeds revenue, the government is running budget deficit. When the budget surplus (and deficit) is zero, the government has a balanced budget. When the budget is in deficit, the government is adding to the national debt since it must borrow to cover its deficit.

7. Desired/Planned Investment:-

Investment is the increase in capital stock of a country over a given period of time usually one year (Net investment).

Or

Investment is the total spending on new capital goods in a country in one year (Gross investment).

Net Investment = Gross investment - Depreciation

Where

Depreciation or capital consumer to the loss in value of an asset Due to obsolete near and tear or just passion of time. That is also known as "Replacement Investment".

Investment can be taken place in three forms:

Stock Building Or Inventories	Residential Housing construction	Fixed Capital Formation
It includes business spending on stocks of finished goods, work in progress or raw-materials.	Although houses are consumer durables but spending on construction of new houses is termed as investment.	It is the largest component of investment which includes new machinery, factories, equipment etc.

Investment also refers to the producers' durables whereby the firm will invest in new machinery and other durables such as computers. The key word to note here is 'new' because buying second-hand machinery in economics is not considered investment because it does not add to the total physical stocks of the country.

This is also case with new constructions whereby the word 'new' must be stressed. Newly constructed houses are considered as investment because they add to the total physical stocks of the country. If a transaction is done between the buyer and the seller of a five-year-old house, then this is merely a transfer of payment from the seller to the buyer because the actual physical stock in the country remains unchanged. Only if there is addition to stock is the item considered an investment in economics.

When investment takes place just to replace old, worn-out capital goods, it is called depreciation, replacement investment, or capital consumption. When it is called net investment, Gross investment is the sum of net investment and depreciation. Investment also pertains to increasing or improving social capital

(or public infrastructure), such as building new roads or a new hospital, or carrying out repair and renovation works on them. Investment includes investment in human capital, such as getting more people educated or better educated, or upgrading their skills to raise their productivity.

Portfolio Investment

Investment on financial assets (New), e.g., shares, etc. is known as financial or portfolio investment.

Physical Investment

Investment on Physical assets, e.g., stocks, bulk machinery, etc., is known as physical Investment.

Interest rate (ir) and Marginal Efficiency of Capital (MEC) and Investment (I):

Interest rates are the costs of finance borrowed or raised by investors.

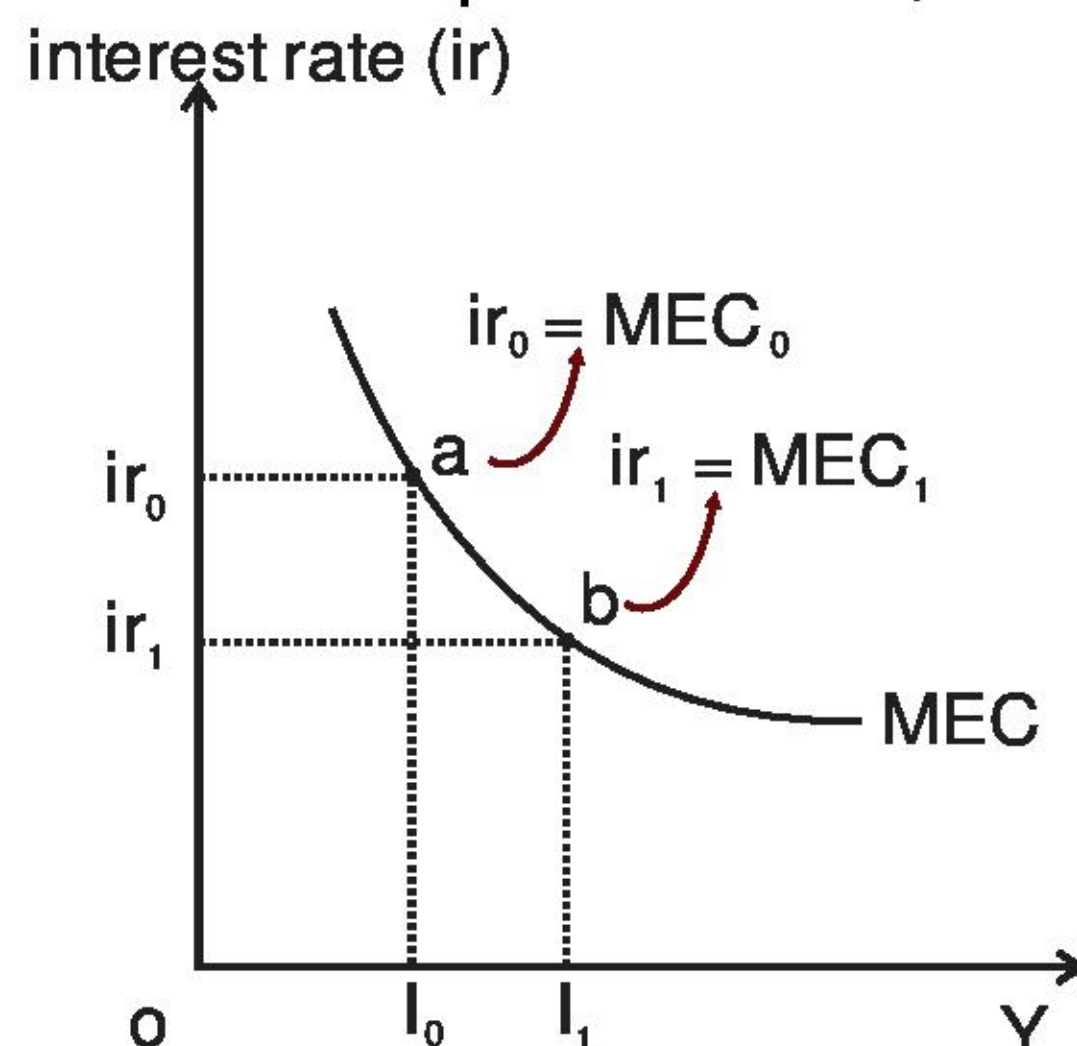
Marginal Efficiency of Capital (MEC) or Marginal Efficiency of Investment (MEI) is expected yield or rate of return from additional unit of investment or capital. When an investor invests, he expects a rate of return on his investment. Every additional dollar of investment must give him an additional return, called the marginal efficiency of capital.

Whether an additional dollar of investment is undertaken or not depends on its return relative to its cost. The cost is the interest rate which has to be paid regularly; the return is the marginal efficiency of investment. When MEC exceeds the interest rate investment rises and vice versa.

$$\begin{aligned} \text{MEC} > \text{ir} &\rightarrow I \uparrow \\ \text{MEC} < \text{ir} &\rightarrow I \downarrow \\ \text{MEC} = \text{ir} &\rightarrow I = \text{Optimum Investment} \end{aligned}$$

A firm will employ capital up to the point where the marginal efficiency is just equal to its price.

In figure below when the rate of interest is ir_0 . The firm will expand its capital stock to I_0 where $ir_0 = \text{MEC}_0$ as shown on point 'a' in the following diagram. Any further additions to the capital stock would only reduce the firm's profits because the cost incurred in acquiring the capital (i.e., the interest charges) would exceed the expected annual returns from the extra units of capital. Therefore, I_0 is optimum investment.



If the rate of interest falls to ir_1 , the demand for capital increases to I_1 . Investment projects ($I_0 I_1$) which appeared unprofitable at the higher interest rate will now offer the prospect of profitable employment.

As the amount of capital increases, the marginal efficiency of capital falls. This is because as, for example, the number of machines increases, the return from each extra machine declines as there may not be the ideal combination of resources (and so capital will be subject to diminishing returns) and the resulting higher output will reduce the price of the product.

- Capital $\uparrow$ with some fixed factor $\rightarrow$ In short run $\rightarrow$ Law of Diminishing returns $\rightarrow$ MEC $\downarrow$.

- $\text{Capital} \uparrow \rightarrow \text{good produced} \uparrow \rightarrow \text{Supply of goods} \uparrow \rightarrow P \downarrow \rightarrow MR \downarrow \rightarrow MRP_K \downarrow \rightarrow MEC \downarrow$

Where,

P = price of the product

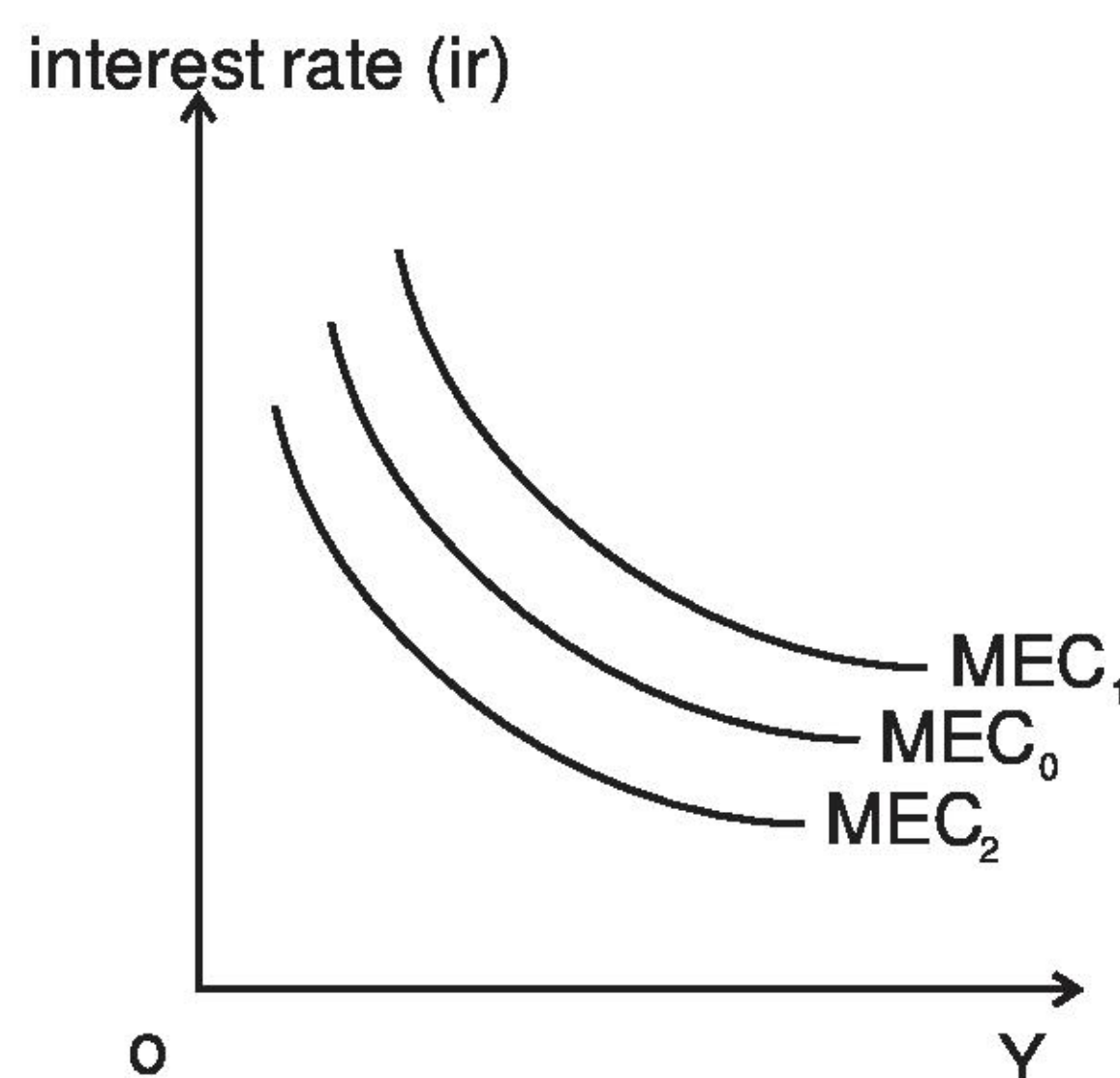
MR = marginal revenue

MRP_K = marginal revenue product of capital = MEC

At point 'b' there will be new optimum investment I_1 where $ir_1 = MEC_1$. A curve joining two points a and b is MEC curve that shows inverse relationship between interest rate and optimum investment.

Similarly, an increase in the rate of interest will reduce the demand for capital goods. This analysis applies whether the firm is borrowing money or using its own savings. The rate of interest is the opportunity cost of investment in both cases. When the firm uses its own savings to purchase capital it sacrifices it could have earned on those savings.

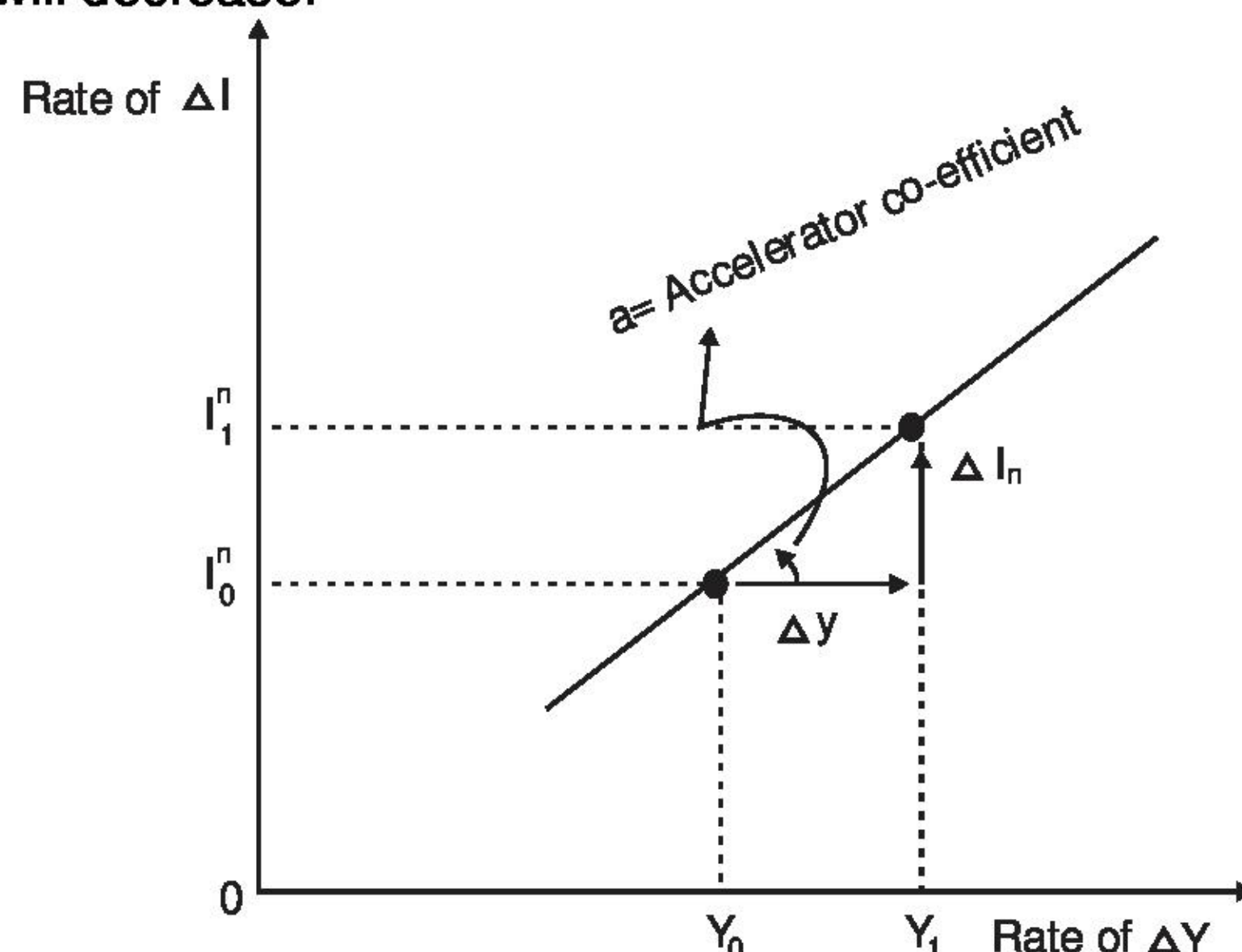
Interest rate is endogenous factor for MEC and its changes bring a movement along the same curve while rest of all are exogenous factors and shift MEC inward or outward.



Other Determinants:

- **Changes in Technology:** Advances in technology will make machines more productive and are likely to stimulate investment.
- **Changes in the Cost of Capital:** If capital becomes cheaper to buy and install more is likely to be purchased.
- **Expectations:** These can be referred to as 'animal spirits' and can have a significant influence. If entrepreneurs are optimistic about the future they are likely to invest more.
- **Corporation Tax:** Corporation tax is a tax on the profits of firms. Lower corporation tax will increase post-tax returns and stimulate investment.
- **Government Incentives:** An increase in government grants and investment tax allowances will be likely to increase investment.
- **Profit Levels:** Higher profit levels will encourage firms to invest and will provide them with the finance to do so.
- **Infrastructure:**
- **Political Stability:**
- **Terrorist Activities:**
- **Foreign Relation and Investment**
- **Strategic Location:**
- **Industrial Relations i.e. Relations with Labour unions:**
- **Availability and cost of skilled labour force:**
- **Rate of Change of Income:** According to the accelerator theory of investment, net investment is determined by the rate of change of national income. When national income rises at an

increasing rate, consumption will rise and firms will seek to increase their productive capacity therefore net investment will increase. However, when national income rises at a decreasing rate, net investment will decrease.



The size of the accelerator effect depends on the capital-output ratio. The higher the capital-output ratio, the larger the accelerator effect.

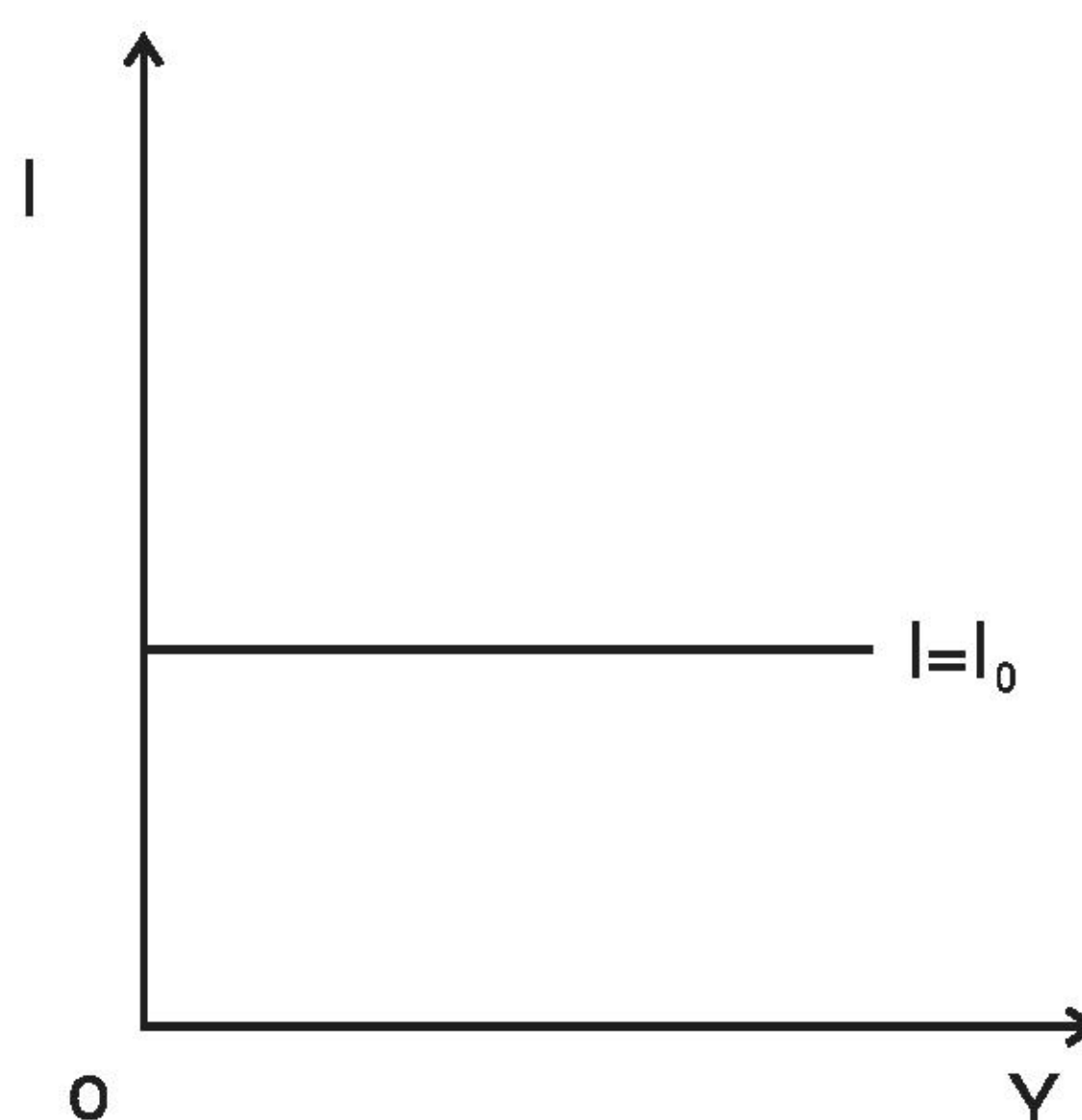
Investment Function:

Willingness depends upon		Ability to invest comes from	
MEC	Interest rate (ir)	Savings	Borrowing
MEC > ir → I↑ MEC < ir → I↓ MEC = ir → I=Optimum Investment		Opportunity cost is interest rate (ir)	Cost of borrowing is interest rate (ir)

An increase in income may increase ability to invest in an economy but whether the firms will or will not invest is jointly determined by the interest rate and the marginal efficiency of capital (MEC). Therefore, according to Keynesian theory, investment is autonomous of national Income. I.e.:

$$I \neq f(Y)$$

$$I = I_0$$



Both the Keynesian investment function and accelerator theory don't conflict as the former describes absolute investment is autonomous of national income and the latter shows the relationship of rate of change in national output with changes in net investment.

Total Injections (J):

In a 4-Sector economy, along with investment and government spending on goods and services, exports act as injection into the circular flow of income. Therefore:

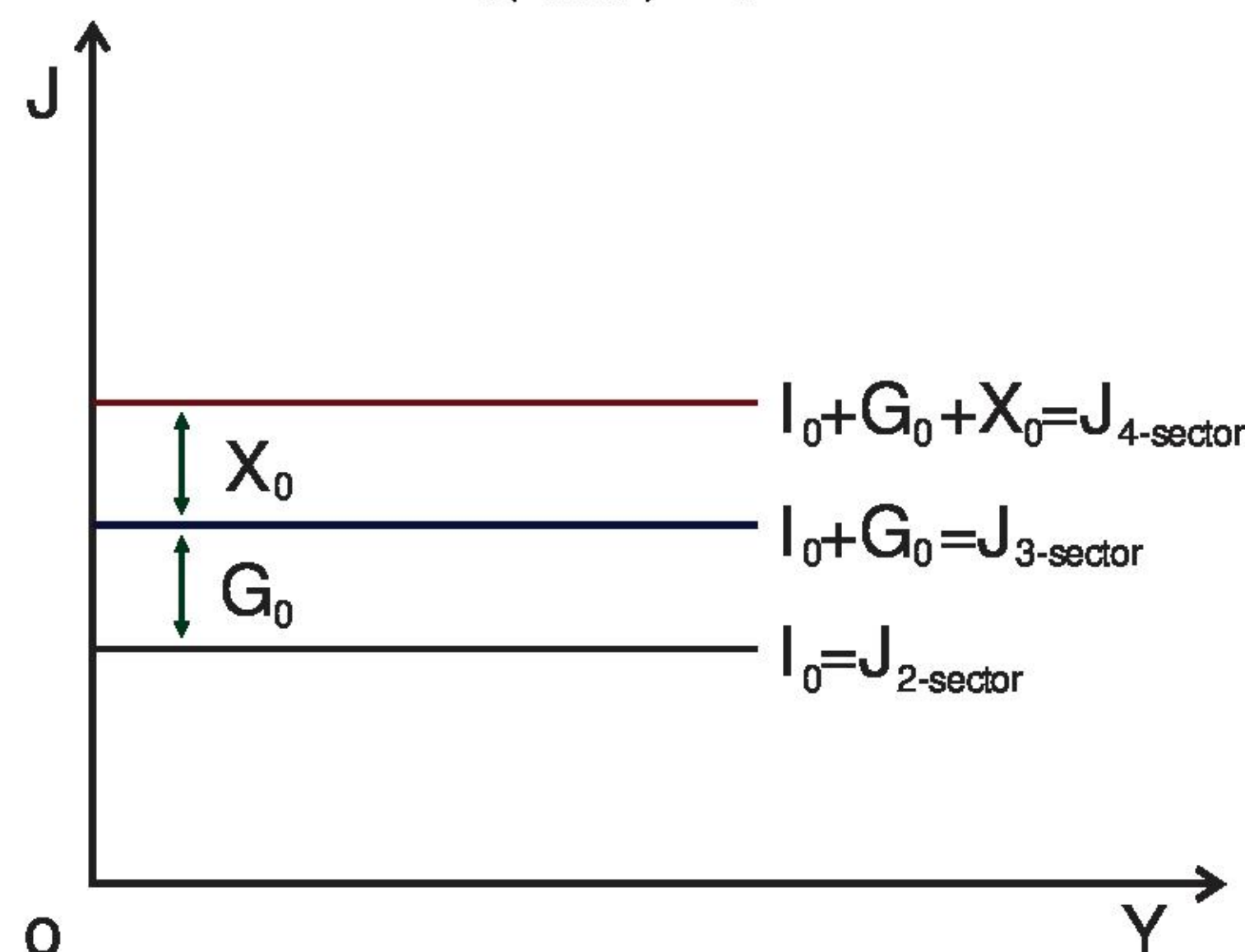
$$J_{(4\text{-sector})} = I_0 + G_0 + X_0$$

In a 3-Sector economy, with absence of foreign sector:

$$J_{(3\text{-sector})} = I_0 + G_0$$

In a 2-Sector economy, with absence of both government and foreign sectors:

$$J_{(2\text{-sector})} = I_0$$

**Total Withdrawals (W)**

In 4-Sector economy, there are three withdrawals or leakages from the circular flow of income now, i.e., savings, taxation and imports

$$W_{(4\text{-sector})} = S + T + M$$

In 3-Sector economy, with absence of foreign sector:

$$W_{(3\text{-sector})} = S + T$$

In 2-Sector economy, with absence of both government and foreign sectors:

$$W_{(2\text{-sector})} = S$$

With autonomous tax and imports	With induced tax and imports
$S = -S_0 + MPSY$ $T = T_0$ (Autonomous Tax) $\rightarrow$ $MPT=0$ $M = M_0$ (Autonomous Imports) $\rightarrow$ $MPM=0$	$S = -S_0 + MPSY$ $T = MPTY$ (Induced Tax) $M = MPMY$ (Induced Imports)
MPW= MPS	MPW= MPS+MPT+MPM

Aggregate Expenditure (AE) Function:

The aggregate expenditure function relates the level of desired expenditure to the level of national income. Generally, total desired expenditure on the nation's output is the sum of desired consumption, investment, government, and net export expenditure.

In a 4-Sector economy:

$$AE_{(4\text{-sector})} = C + I_0 + G_0 + X_0 - M$$

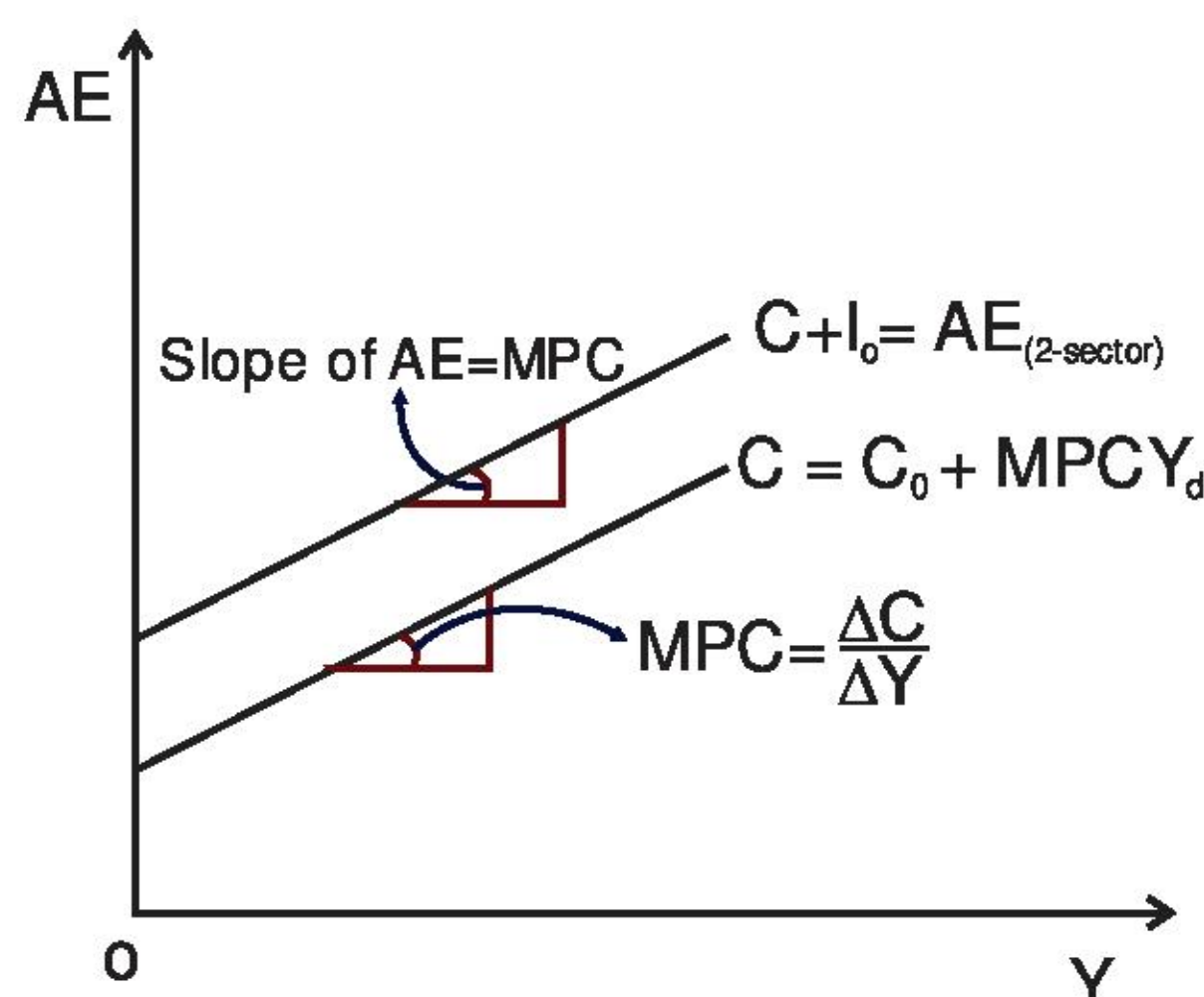
In 3-Sector economy, with absence of foreign sector:

$$AE_{(3\text{-sector})} = C + I_0 + G_0$$

In 2-Sector economy, with absence of both government and foreign sectors:

$$AE_{(2\text{-sector})} = C + I_0$$

The fraction of any increment to national income that will be spent on purchasing domestic output is called the economy's marginal propensity to spend. The marginal propensity to spend is measured by the change in aggregate expenditure divided by the change in income, or $\Delta AE / \Delta Y$, the slope of the aggregate expenditure function. In 2-sector economy it is equal to MPC and whether the slope of AE will remain same or will change depends upon whether tax and imports are autonomous or induced.



With autonomous tax and imports	With induced tax and imports
$T = T_0$ (Autonomous Tax) $\rightarrow$ $MPT=0$ $M = M_0$ (Autonomous Imports) $\rightarrow$ $MPM=0$	$T = MPT Y$ (Induced Tax) $M = MPM Y$ (Induced Imports)
$MPC_{(4\text{-sector})} = MPC_{(3\text{-sector})} = MPC_{(2\text{-sector})}$	$MPC_{(4\text{-sector})} < MPC_{(3\text{-sector})} < MPC_{(2\text{-sector})}$
Slope of $AE_{(4\text{-sector})}$ = Slope of $AE_{(3\text{-sector})}$ = Slope of $AE_{(2\text{-sector})}$	Slope of $AE_{(4\text{-sector})} < \text{Slope of } AE_{(3\text{-sector})} < \text{Slope of } AE_{(2\text{-sector})}$

Effect of Tax on Consumption Function and Disposable Income:

In 2-sector economy, where there were only households and firms, disposable income and national income were equal. I.e.:

$$Y_d = Y \text{ in 2 sector Economy}$$

But tax (assume only direct taxes are there) will reduce the disposable income of households relative to national income and output. I.e.:

$$Y_d = Y - T$$

Therefore

$$Y_d < Y \text{ in 3-sector Economy}$$

For simplicity, we have assumed that:

$$T = \text{induced tax} = \text{MPT}Y$$

Inserting the value of 'T' in Y_d .

$$Y_d = Y - \text{MPT}Y$$

$$Y_d = (1 - \text{MPT})Y$$

Households are allowed to keep only the fraction $(1 - \text{MPT})$ of each pound of pre-tax income. When the net tax rate is $0.2 = \text{MPT}$ or 20 per cent, of their pre-tax income Y . The other 20 per cent goes to the government.

If,

$$Y = \$1000$$

$$\text{MPT} = 0.2$$

$$Y_d = (1 - 0.2)1000$$

$$Y_d = (0.8)(1000) = \$800$$

Now,

We know that

$$C_1 = C_0 + \text{MPC } Y_d \text{ — Pre tax consumption function.}$$

Substituting the value of ' Y_d '. i.e., $(1 - \text{MPT})Y$

$$C_2 = C_0 + \text{MPC } (1 - \text{MPT}) Y \text{ — After-tax consumption function.}$$

Therefore after-tax consumption function is reduced by factor $(1 - \text{MPT})$.

MPC out of disposable income and MPC out of National Income:-

If,

MPC_1 = Marginal propensity to consume out of disposable income.

MPC_2 = Marginal propensity to consume out of national income.

MPT = Marginal propensity to Tax.

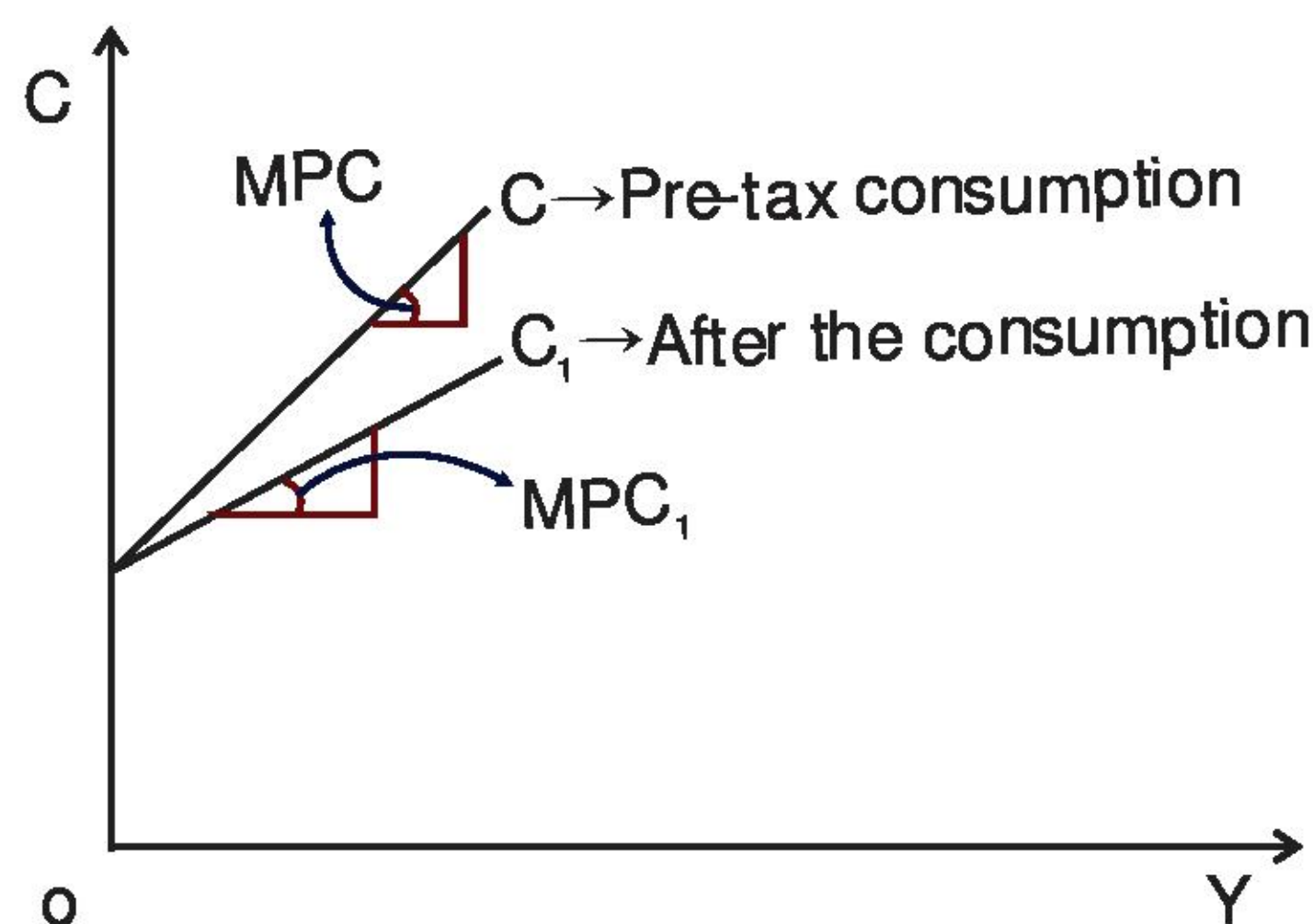
Then it is clear from above discussion that

$$\text{MPC}_2 = \text{MPC}_1 (1 - \text{MPT})$$

i.e.,

$$\text{MPC out of national income} = \text{MPC out of disposable Income } (1 - \text{MPT})$$

Effect of induced tax on consumption function can be illustrated by following diagram.



Example:

In an economy, marginal propensity to consume out of disposable income is $2/3$. Net Taxes (Tax receipts less benefits) are $1/4$ of national Income at all levels of income.

What is marginal propensity to consume out of national income?

A: $\frac{1}{4}$

B: $\frac{3}{8}$

C: $\frac{1}{2}$

D: $\frac{5}{6}$

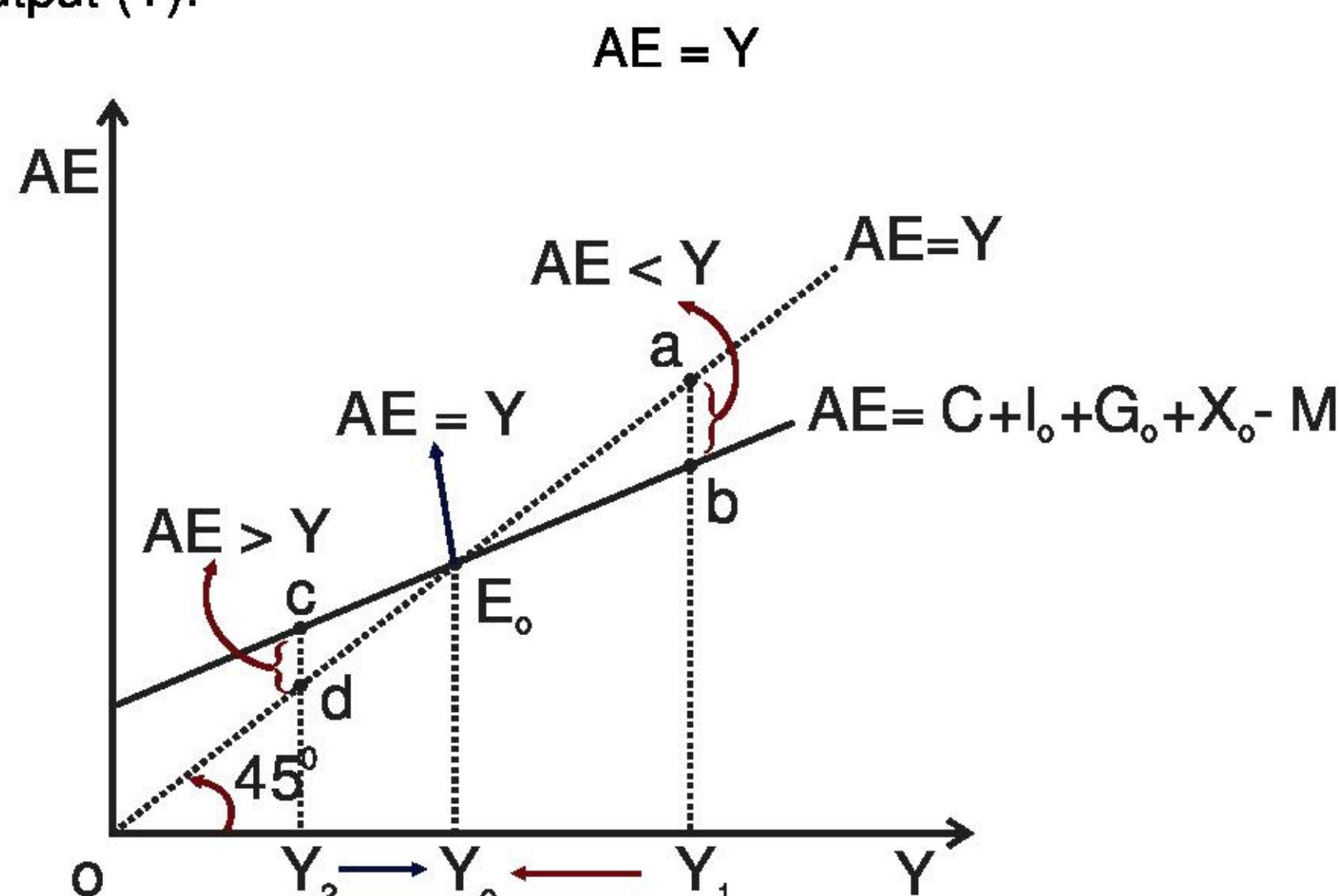
Ans: ?

National Income Equilibrium:

Equilibrium is a state of balance between opposing forces. When something is in equilibrium, there is no tendency for it to change; forces are acting on it, but they balance out, and the net result is no change. Any conditions that are required for something to be in equilibrium are called its equilibrium conditions.

1. AE Model:

National income is in equilibrium where aggregate desired expenditure equals national income. When national income is below its equilibrium level, aggregate desired expenditure (AE) exceeds the value of current output (Y). This creates an incentive for firms to increase output and hence for national income to rise. When national income is above its equilibrium level, aggregate desired expenditure (AE) is less than the value of current output (Y). This creates an incentive for firms to reduce output and hence for national income to fall. Only at the equilibrium level of national income is aggregate desired expenditure (AE) equal to the value of current output (Y).



At Y ₁	At Y ₂	At Y _o
• At < Y • Accumulation of unsold stocks/unintended increase in inventory stocks. • Producers respond by reducing their output and by making redundancies of extra staff. • There is a pressure for national income to fall.	• AE > Y • Shortage /unintended reduction in inventory stocks • Producers respond by increasing their output and employing more factors of production to meet excess demand in the economy. • National income tends to rise.	• AE = Y • No unintended increase or decrease in inventory stocks. • No tendency of national income to change. • National Income at Y_o is said to be in equilibrium

Consider Y₁ level of national income as shown in above diagram. At this level desired expenditure on domestically produced goods is less than national output. If firms persist in producing more of goods, Y₁Y_o worth of goods must remain unsold. Therefore, stocks of unsold goods must rise. However, firms will not allow unsold goods to accumulate indefinitely; sooner or later they will reduce the level of output to the level of sales. When they do, national income will fall.

At any level of income for which aggregate desired expenditure is less than total output, there will be a pressure for national income to fall.

Next, consider level of national income Y₂, consumers, firms, and government will be unable to spend that they would like to spend, so lines or waiting lists of unsatisfied customer will appear. These will send a signal to firms that they can increase their sales if they increase their production. When the firms increase

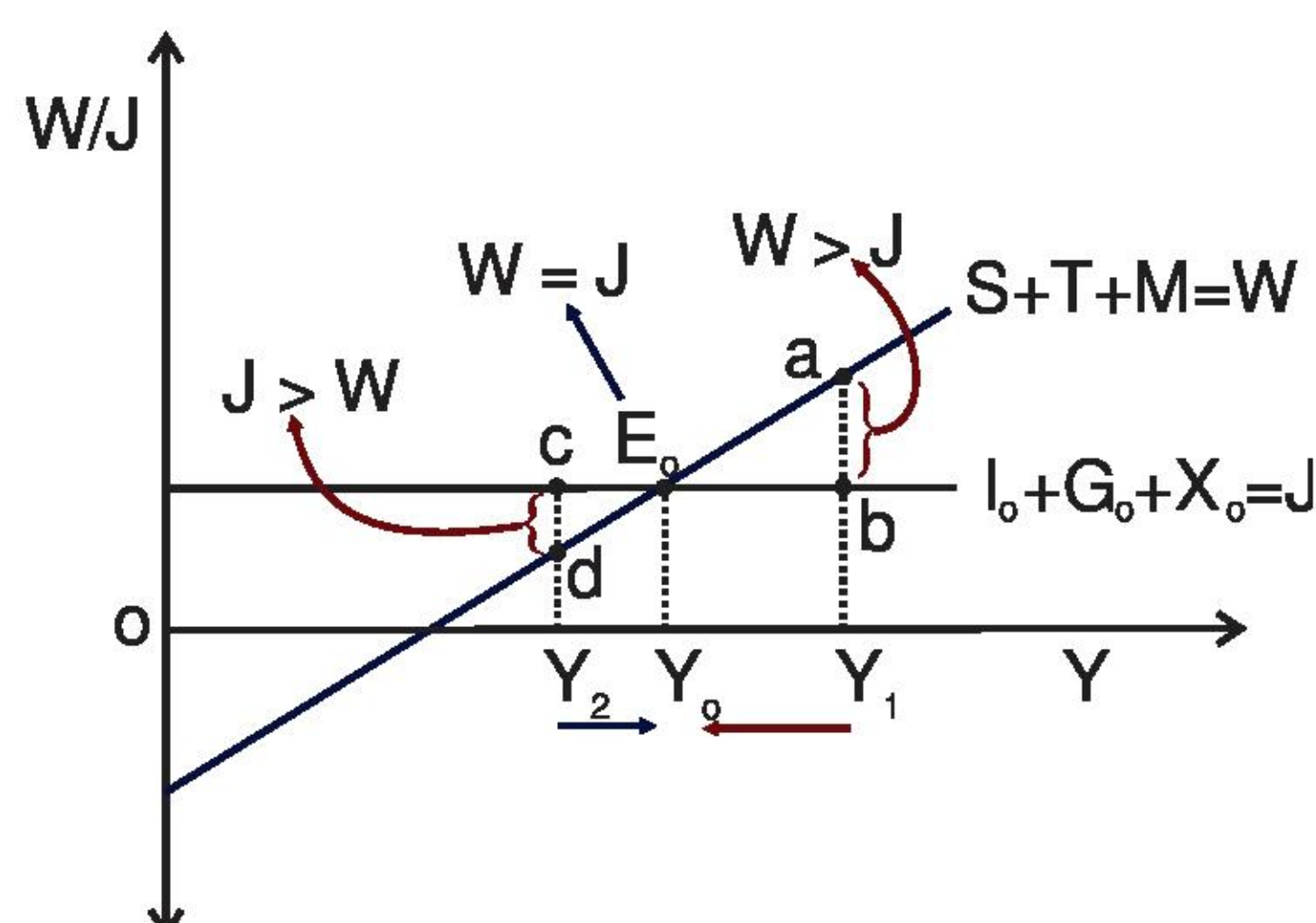
production, national income increases. Of course, the individual firms are interested only in their own sales and profits, but their individual actions inevitably lead to an increase in GDP from Y_2 to Y_0 .

At any level of national income at which aggregate desired expenditure exceeds total output, there will be pressure for national income to rise.

Finally, look at the national income level Y_0 . At this level, and only at this level, aggregate desired expenditure (AE) is equal to national income (Y). Purchases can fulfill their spending plans without causing inventories to change. There is no incentive for firms to alter output. Because everyone wishes to purchase an amount equal to what is being produced, output and income will remain steady; they are in equilibrium.

Equilibrium national income occurs at E_0 , where the desire aggregate expenditure intersects the 45° line. This is the level of income where desired expenditure is just equal to total national income and therefore is just sufficient to purchase total final output.

2. Withdrawals and Injections Model:

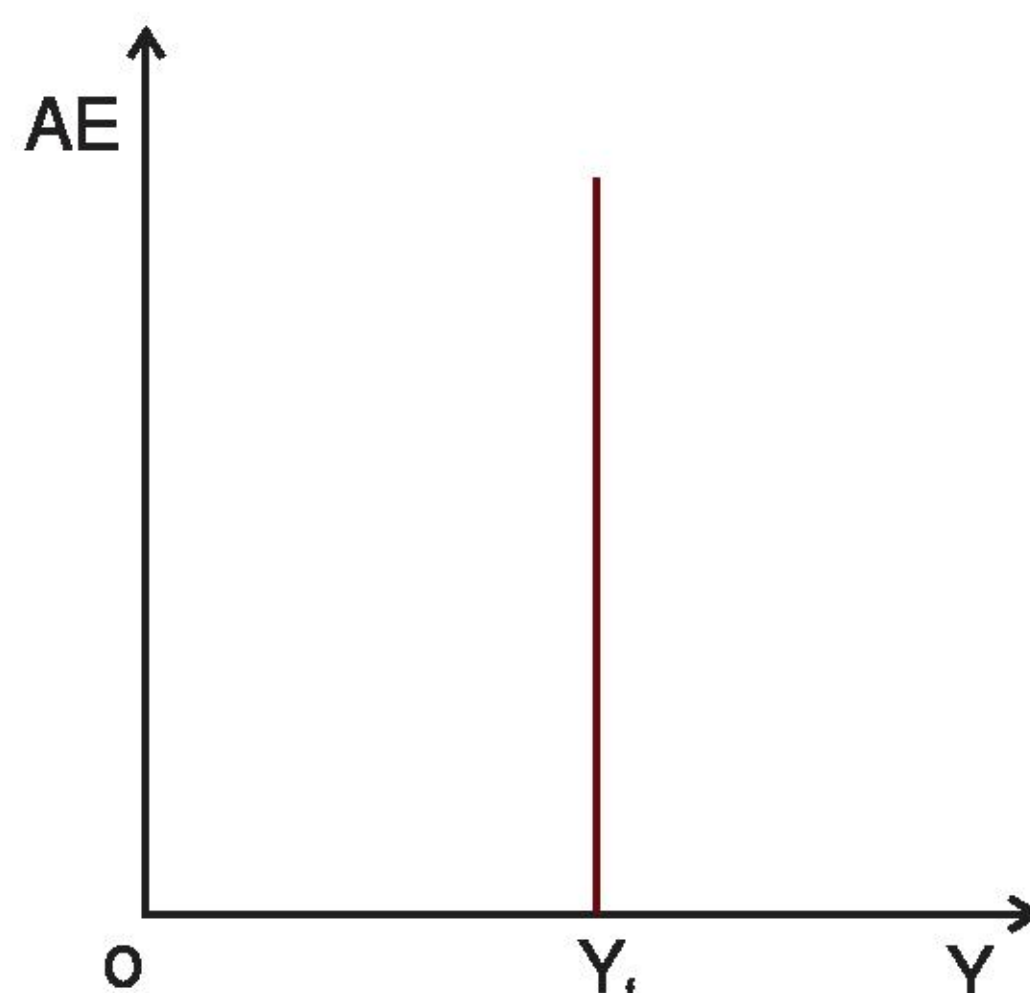


At Y_1	At Y_2	At Y_0
- $W > J$ - National income tends to fall.	- $J > W$ - National Income tends to rise.	- $W = J$ - No tendency to change in national Income. - National Income at Y_0 is said to be in equilibrium

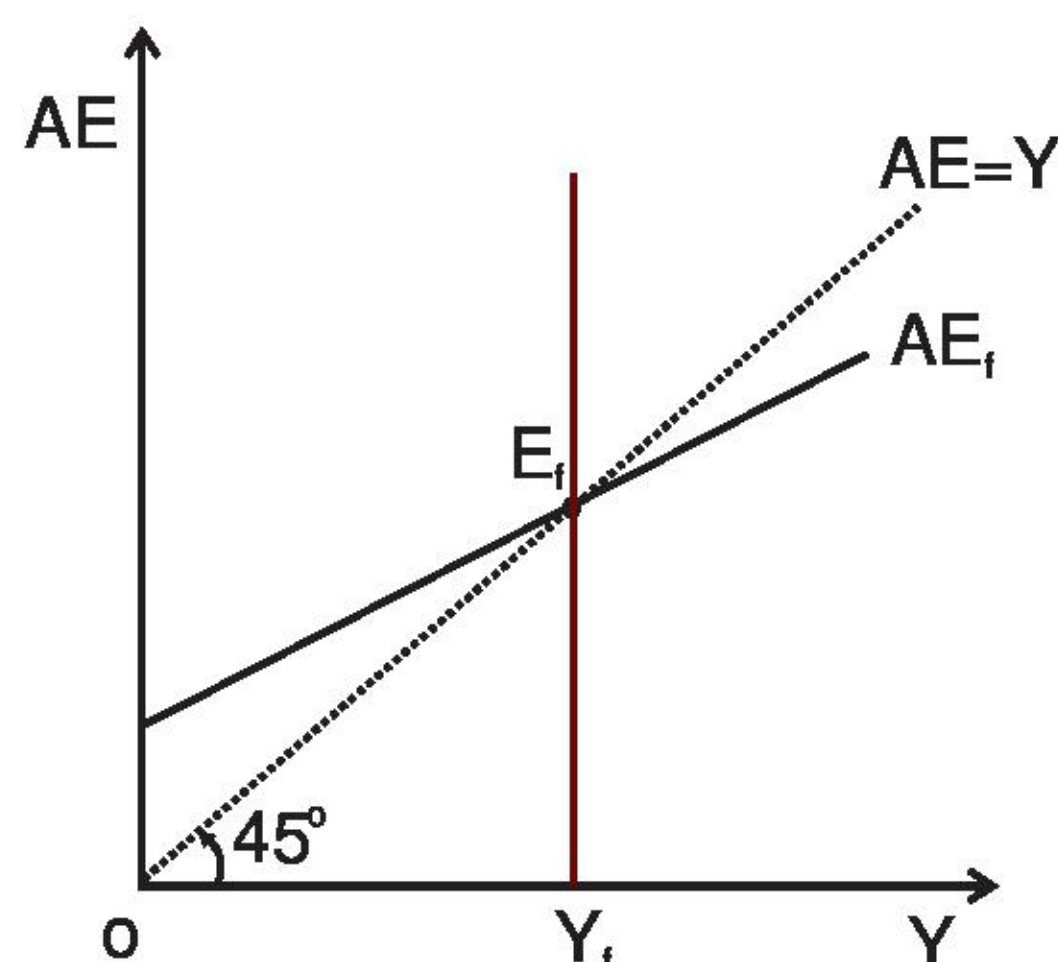
Inflationary and deflationary gaps.

Full employment means maximum possible employment or in other words if an economy is producing at its production possibility curve (PPC) it is said to be at full employment.

Full employment level of national income (potential GDP) is shown by a vertical line in Keynesian cross diagrams as shown below.

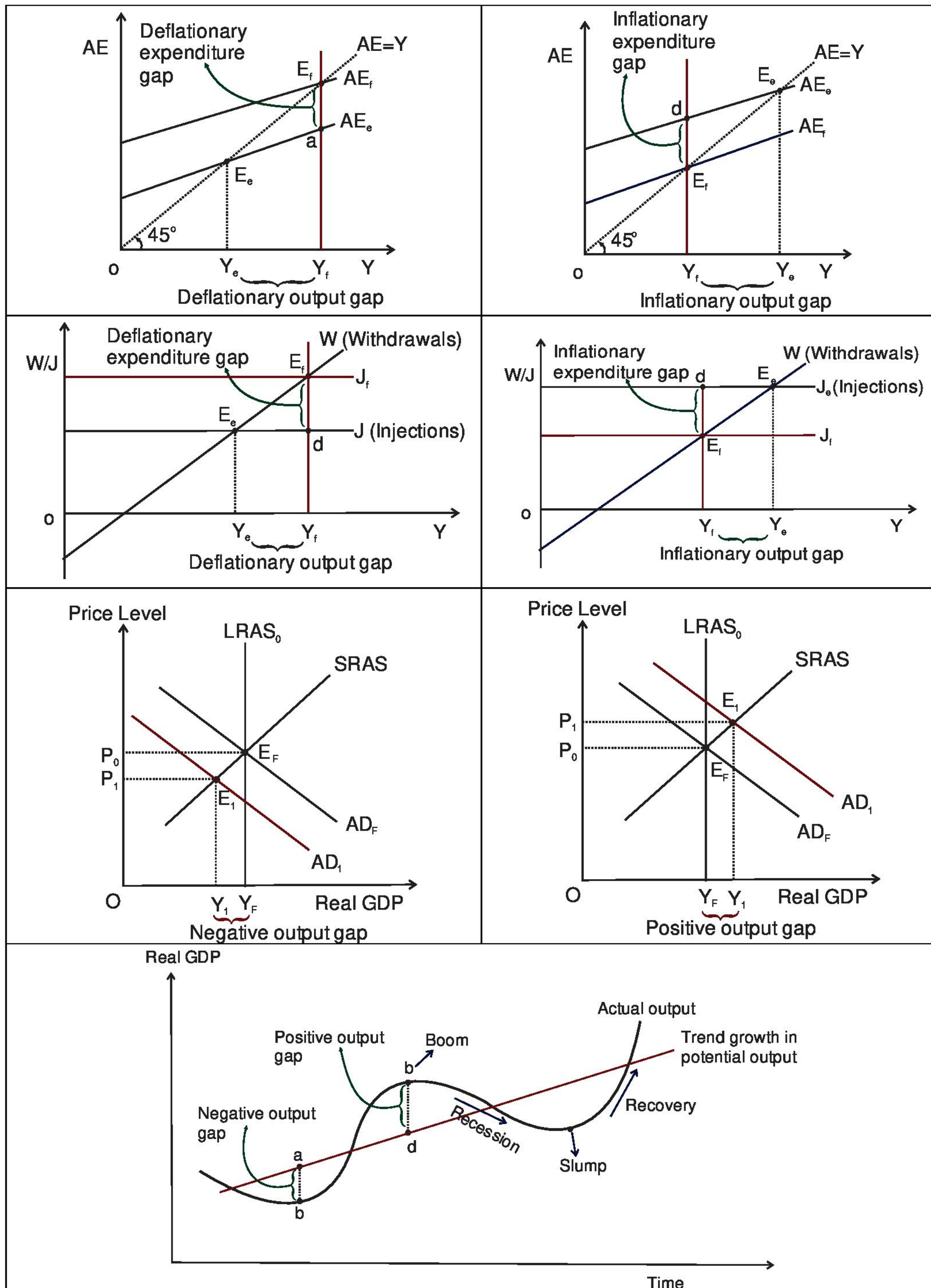


If current equilibrium level of income (Y_e) is equal to the full employment level of national income (Y_f), i.e., $Y_e = Y_f$, then there is no inflationary or deflationary gap.



However, if current national income equilibrium is not established at full employment then there is either deflationary or inflationary gap depending on the level of aggregate expenditure (AE) in the existing economy.

Deflationary Gap		Inflationary Gap	
$Y_e < Y_f$	$AE_e < AE_f$	$Y_e > Y_f$	$AE_e > AE_f$
Additional output needed to reach full employment	Additional expenditure needed to reach full employment	Excess of output over and above what is needed to be at full employment	Excess of expenditure over and above what is needed to be at full employment
Shows unemployment in the economy		Shows inflation in the economy	
$\Delta Y = Y_e - Y_f$	$\Delta AE = aE_f$	$\Delta Y = Y_e - Y_f$	$\Delta AE = dE_f$
Deflationary Output Gap (DOG) or Negative output gap (NOG)	Deflationary Expenditure Gap (DEG)	Inflationary Output Gap (IOG) or Positive output gap (POG)	Inflationary Expenditure Gap (IEG)



Multiplier

Definitions:

- The multiplier principle states that a change in the level of injection (or withdrawals) brings about a relatively greater change in the level of national income.
- An increase in desired aggregate expenditure increases equilibrium national income by a multiple of the initial increase in autonomous expenditure.
- The multiplier is the ratio of the change in income to the change in autonomous expenditure—that is, the change in national income divided by the change in autonomous expenditure that brought it about. That is,

$$K = \frac{\Delta Y}{\Delta AE} = \frac{\Delta Y}{\Delta J}$$

So, for example, if an increase of \$100 investment brings a change of \$500 in national income. Then,

$$K = \frac{500}{100} = 5$$

Assumptions:

- There is only **autonomous** investment and no induced investment.
- Marginal propensity to consume (**MPC**) is **constant** for the whole economy.
- Consumer goods industries have **excess capacity** to meet any increase in aggregate expenditure.
- **No time lags**: the process must be automatic.
- **Price level** is supposed to be **constant**
- Economy is currently operating **below full employment level**.

Operation of Multiplier:

Suppose there is an injection (investment) of \$1000 into the circular flow of income of an open economy with government. Moreover assume that the said economy have marginal propensity to consume (MPC) is 0.6, marginal propensity to save (MPS) is 0.2, marginal propensity to tax (MPT) and marginal propensity to import (MPM) are 0.1.

An autonomous injection of \$1000 will raise the first round's income by \$ 1000 who will spend 60% as (MC=0.6) i.e. \$600 which will be received to second round. They will also spend 60% of their incomes i.e. \$360 which will be an increase in incomes of third round and so on. There would be unlimited rounds of spending leading to aggregated multiple increase in national income i.e. \$2500. The size of the multiplier is governed by the MPC. In our example we saw that additions to income were generated in the following series.

$$Y = \$1000 + \$600 + \$360 = (1) \Delta I + (0.6) \Delta I + (0.6)^2 \Delta I + (0.6)^3 \Delta I + \dots$$

Because the MPC was 0.6 and therefore 0.6 of all income received was passed on to create income for someone else.

If we followed each series we would find that each successive round of extra income would get smaller and smaller but never quite reach zero. Such a series is well known in mathematics and is termed an **infinite geometric progression**. Its value is given by the formula:

$$\text{Sum to infinity} = \frac{a}{1-r}$$

Where

r = common ratio

a = first term of series

In the case of the multiplier the common ratio is the MPC and first term is \$1 so that we obtain:

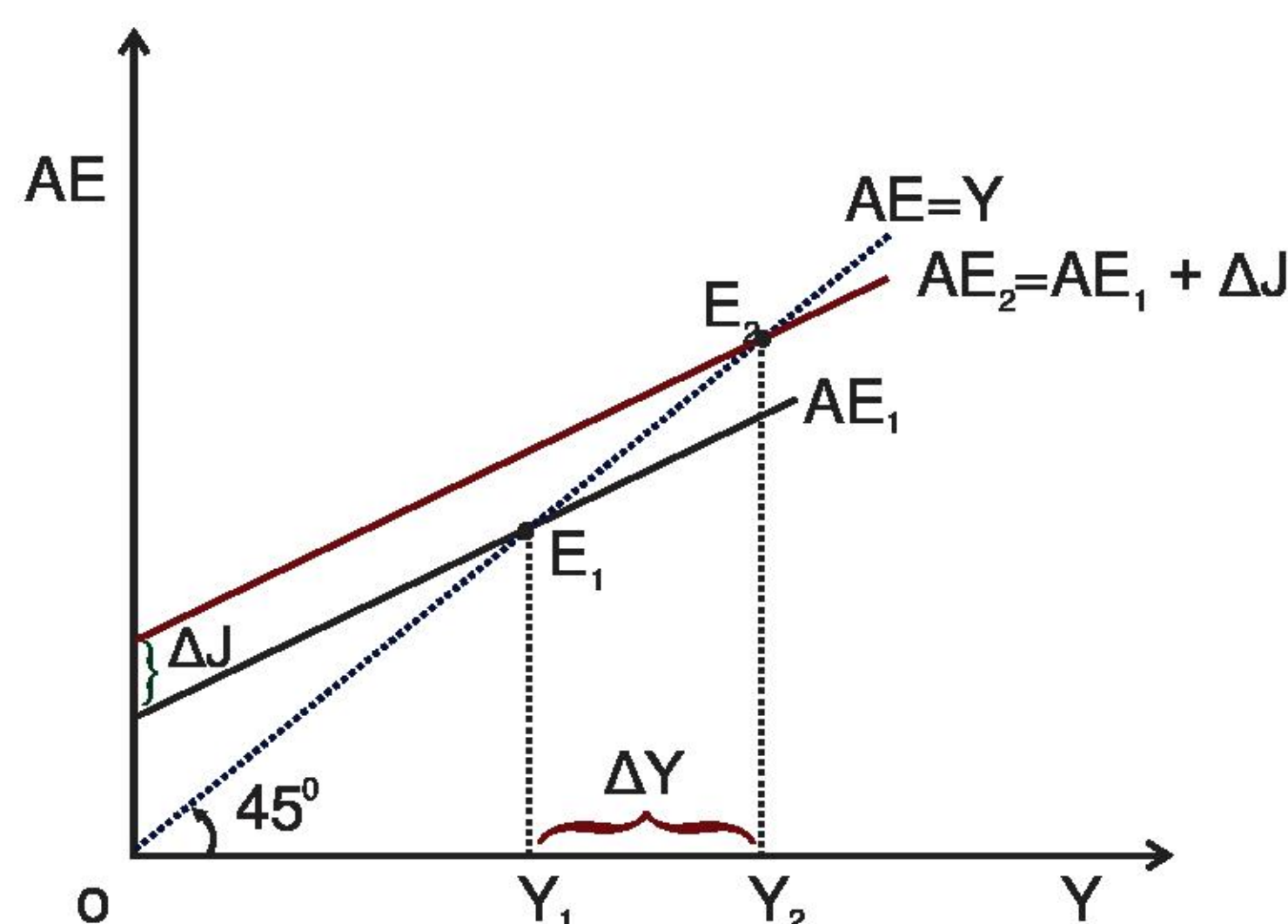
$$K = \frac{1}{1-MPC} \Rightarrow \frac{1}{1-0.6} \Rightarrow 2.5$$

Now

$$\Delta Y = \Delta I \times K = \$1000 \times 2.5 = \$2500$$

Rounds of spending	Investment (\$)	Income (\$)	Consumption(\$) =MPCY=0.6Y	Savings(\$) =MPSY=0.2Y	Tax(\$) =MPTY=0.1Y	Imports(\$) =MPMY=0.1Y
Initial Stage	1000	1000	600	200	100	100
1 st Recipient		600	360	120	60	60
2 nd Recipient		360	216	72	36	36
3 rd Recipient		216	—	—	—	—
—		—	—	—	—	—
—		—	—	—	—	—
Total	1000	2500	1500	500	250	250

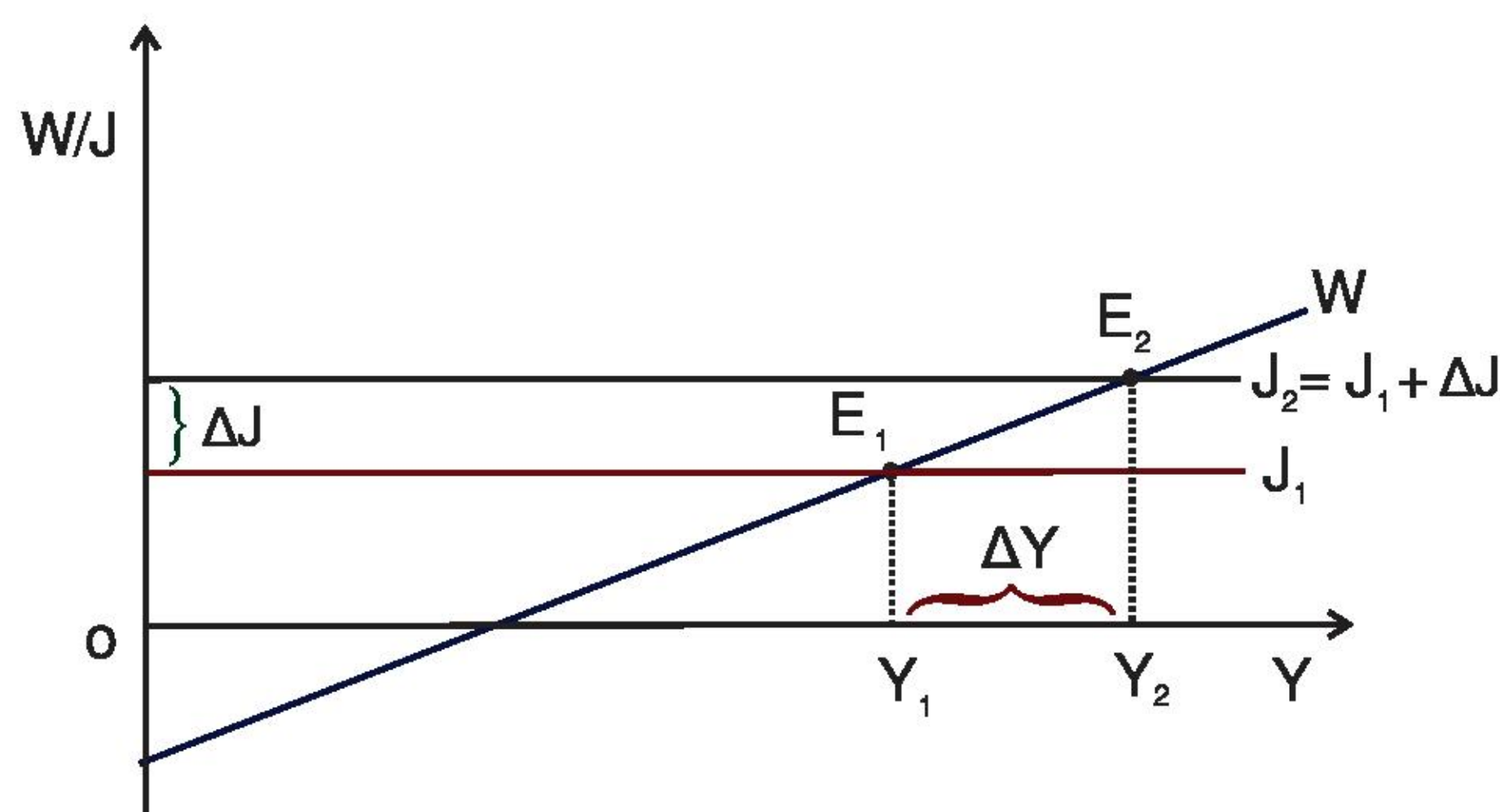
Multiplier process can also be explained in the following diagrams:



Before an autonomous increase in investment into the circular flow of income, the economy was in a state of equilibrium at “Y₁” where initial AE-function (AE₁) intersects the 45° line at E₁. With an autonomous rise in investment, AE will shift upward to AE₂, with an amount of ΔJ = ΔI = \$1000.

Now at ‘Y₁’ there is a shortage in the economy as AE₂ > Y₁ therefore, the economy tends to expand unless and until the new AE-function (AE₂) intersects the 45° line at income level Y₂. Due to the increase in investment the AE₁ curve shifts upwards to AE₂, national income on the other hand increases from Y₁ to Y₂. The diagram clearly depicts the multiplier theory as it shows that the change in national income (ΔY) is greater than the change in autonomous expenditure (ΔAE).

Multiplier can also be explained by withdrawals and injections diagram as show below.



If injections autonomously increase from J_1 to J_2 there will be an increase in national income from Y_1 to Y_2 which is greater than (multiple of) initial injection.

Hence, the increase in investment will lead to the aggregate and cumulative multiple increase in income of because income recipients keep on spending and re-spending on consumption according to the marginal propensity to consume in successive rounds. However, multiplier works in both directions, i.e., for any increase in injections and decrease in injections. If any increase in autonomous expenditure leads to multiple rise in national income, then any fall in autonomous expenditure will cause a multiple fall in national income.

The process will come to a halt when the additions to withdrawals total \$1000. This is because the change in withdrawals (ΔW) is now equal to the original change in investment (ΔI) and, therefore, the economy is returned to equilibrium because $W=J$ once again. At this point the additions to income total \$2500. Therefore, in this case, the value of the multiplier is 2.5.

The Multiplier Formula:

By infinite geometric progression	By definition
$K = \frac{1}{1-MPC}$	$K = \frac{\Delta Y}{\Delta AE} = \frac{\Delta Y}{\Delta J}$
As $MPC + MPS + MPT + MPM = 1$ Therefore $1 - MPC = MPS + MPT + MPM = MPW$ We could also write the formula as $K = \frac{1}{1-MPC} = \frac{1}{MPW}$ $K(2\text{-sector}) = \frac{1}{MPW} = \frac{1}{MPS}$ $K(3\text{-sector}) = \frac{1}{MPW} = \frac{1}{MPS+MPT}$ $K(4\text{-sector}) = \frac{1}{MPW} = \frac{1}{MPS+MPT+MPM}$	Consumption Multiplier $\Rightarrow K_c = \frac{\Delta Y}{\Delta C}$ Investment Multiplier $\Rightarrow K_i = \frac{\Delta Y}{\Delta I}$ Government spending Multiplier $\Rightarrow K_g = \frac{\Delta Y}{\Delta G}$ Exports Multiplier $\Rightarrow K_x = \frac{\Delta Y}{\Delta X}$

Strength of Multiplier:

1. Marginal propensity to consume (MPC):

As we know that

$$K = \frac{1}{1-MPC}$$

Therefore

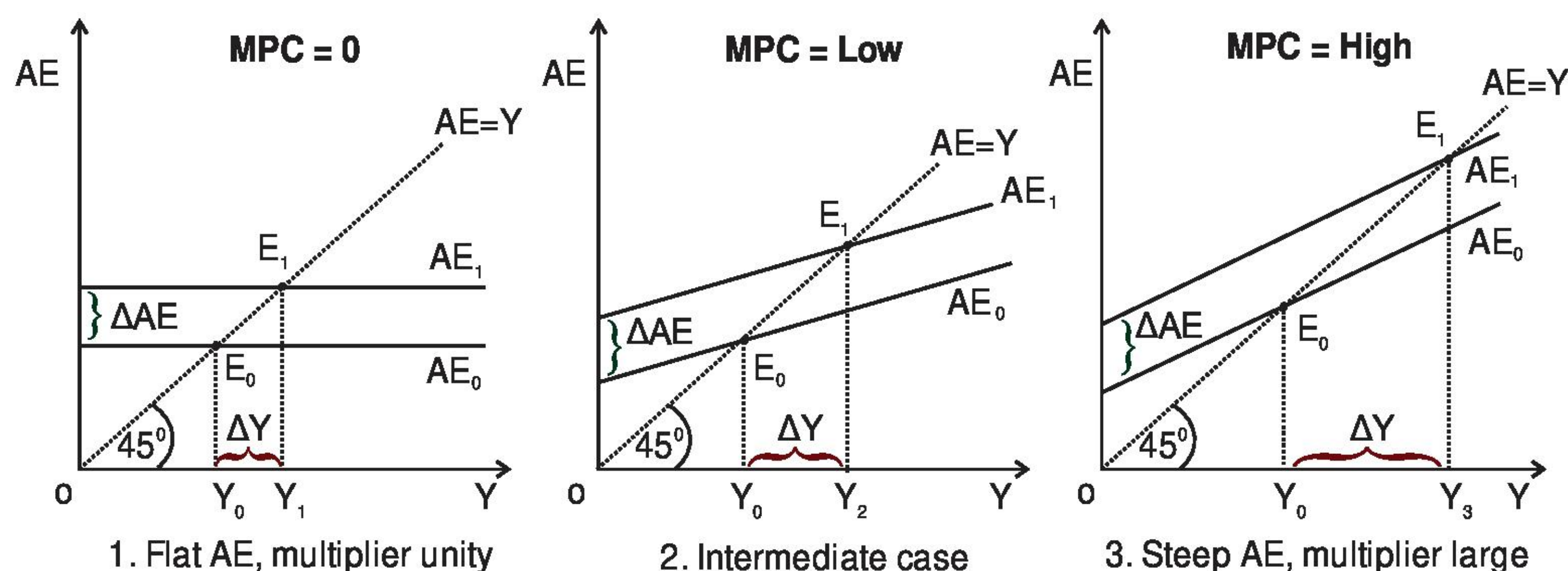
$MPC \uparrow \rightarrow K - \text{Stronger}$

$MPC \downarrow \rightarrow K - \text{Weaker}$

If $MPC = 1 \Rightarrow K = \frac{1}{1-0} = 1$

If $0 < MPC < 1 \Rightarrow 'K' \text{ is greater than one but less than Infinity.}$

Since we know that the MPC determines the slope of AE, and the importance of the value of MPC for the strength, the multiplier can be illustrated.



2. Marginal propensity to withdraw (MPW):

As

$$1 - MPC = MPW$$

Therefore Multiplier is directly related to MPC and inversely with MPW.

Therefore

$$\begin{aligned} MPW = MPS + MPT + MPM \uparrow &\rightarrow K - \text{Weaker} \\ MPW = MPS + MPT + MPM \downarrow &\rightarrow K - \text{Stronger} \end{aligned}$$

3. Level of employment or poverty in the economy:

If level of employment $\uparrow \rightarrow Y \uparrow \rightarrow MPC \downarrow \rightarrow K - \text{Weaker}$

If high rate of unemployment $\rightarrow Y \downarrow \rightarrow MPC \uparrow \rightarrow K - \text{Stronger}$

Limitations of the Multiplier:

All the assumptions of the multiplier theory prevent the multiplier working out as precisely as has been suggested in our examples so far.

Accelerator:

The principle was propounded by J M Clark, but it was incorporated into the Keynesian Theory because both the multiplier and the acceleration principles are closely related.

The accelerator theory focuses on induced investment (investment that changes in response to changes in income) and emphasizes the volatility of investment. It states that investment depends on the rate of changes in income (and hence consumer demand), and that a change in GDP will cause a greater proportionate change in investment.

Example:

If a \$1 million increase in GDP causes induced investment to rise by \$3 million, the accelerator coefficient is said to be 3.

$$a = \frac{\Delta I_N}{\Delta Y} = \frac{3}{1} = 3$$

Where,

a = accelerator co-efficient = capital-output ratio

ΔI_N = Change in Net Investment

ΔY = Change in National Output

Above formula can be re-written as:

$$\Delta I_N = a \Delta Y \quad \therefore \Delta Y = Y_t - Y_{t-1}$$

Therefore,

$$\Delta I_N = a(Y_t - Y_{t-1})$$

Where I_N is net investment in period t ; a is the accelerator; Y_t is the national output in period t ; and Y_{t-1} is the national output in the previous period ($t-1$).

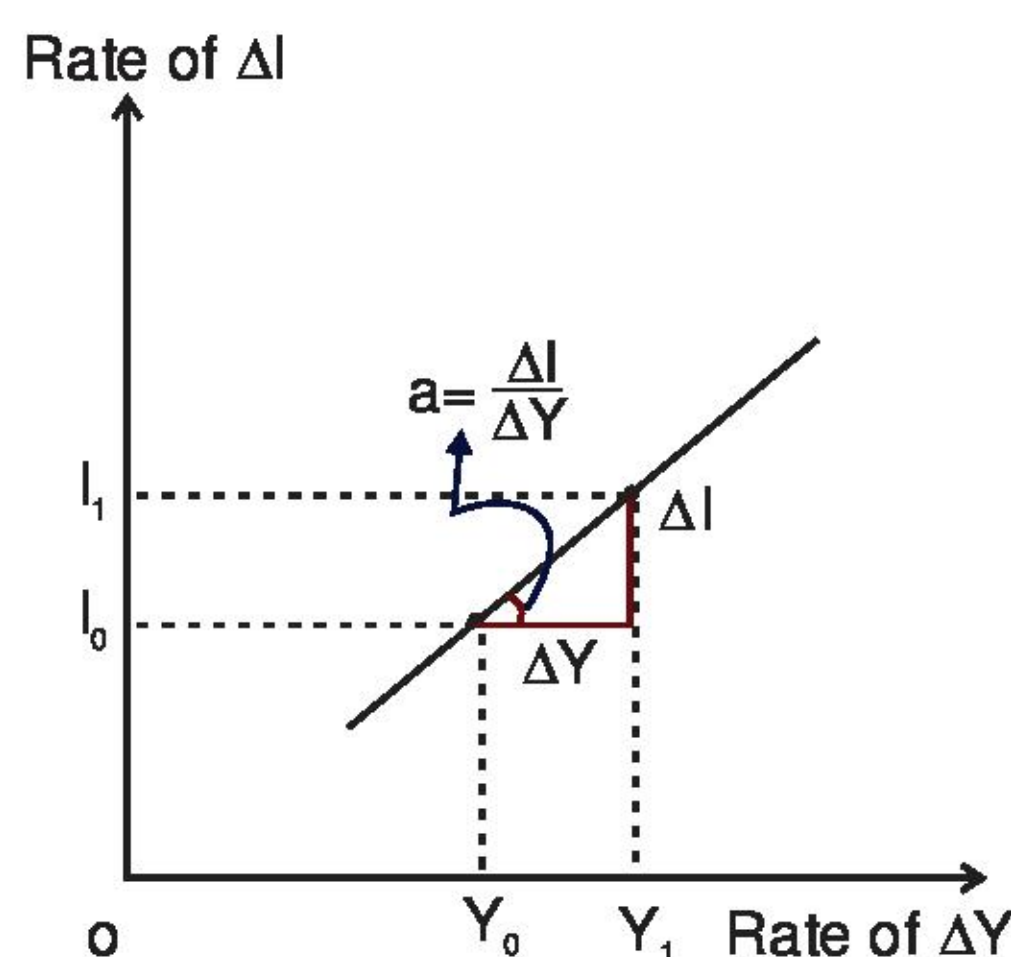
The equation tells that net investment during period t depends on the change in output (Y) from period $t-1$ to period t multiplied.

Explanation:

The principle of acceleration is based on the fact that the demand for capital goods is derived from the demand for consumer goods which the former help to produce. The acceleration principle explains the process by which an increase (or decrease) in the demand for consumption goods leads to an increase (or decrease) in investment on capital goods.

When income increases, people's spending power increases, their consumption increase and consequently demand for consumer goods increases. In order to meet the enhanced demand, investment must increase to raise the productive capacity of the country.

Initially, however, the increased demand will be met by overworking existing plants and machinery. This leads to an increase in profits which will induce entrepreneurs to expand their plants by increasing their investment.



Thus, a raise in income further induces investment. The accelerator is the numeric value of the relationship between an increase in income and the resulting increase in investment. It is based on a technical concept; it depends on the fact that a given amount of capital (that is, a machine) is required to produce a given amount of final product (that is, a consumption good).

The table below provides an example. It is assumed that the firm starts the period with 8 machines, that one machine wears out each year and that each machine can produce 10 units of output per year.

Year	Consumer demand	Machines at start of period	Number of machines required	Replacement investment (depreciation)	Induced investment	Total investment
1	80	8	8	1	0	1
2	100	8	10	1	2	3
3	160	10	16	1	6	7
4	180	16	18	1	2	3
5	180	18	18	1	0	1
6	170	18	17	0	0	0

The table shows that when demand for consumer goods rises by 25% (from 800 to 1,000) in the second year, demand for capital goods rises by 200% (from 1 to 3). When the rate of growth of demand for

consumer goods slows in year 4, demand for capital goods falls, investment falls to zero with the worn-out machine not being replaced, and hence production capacity is reduced.

Hence,

If	Then	Because
GDP is rising, but at a constant rate	induced investment will not change	is because firms can continue to buy the same number of machines each year to expand capacity
GDP is rising, but at an increasing rate	induced investment will increase	is because firms need to buy the additional machines each year to meet the production demand
GDP is rising, but at a decreasing rate	induced investment will decrease	is because firms need to buy the less number of machines each year.

Hence, induced investment is a function of rate of change in output rather than absolute output.

Limitations:

- an increase in demand for consumer goods does not always result in a greater percentage change in demand for capital goods. For instance, firms will not buy more capital goods if they have **spare capacity**.
- if they do not **expect** the rise in consumer demand to last.
- if it is not possible for firms to buy many capital goods if the **capital goods industries** are working close to capacity.
- with advances in **technology**, the capital-output ratio may change with fewer machines being needed to produce a given output.

Relationship between Multiplier and Accelerator

When economy moves towards boom:

$\Delta I \uparrow \rightarrow \text{Multiplier} \rightarrow \Delta Y \uparrow \rightarrow \text{Accelerator} \rightarrow \Delta I \uparrow \rightarrow \text{Multiplier} \rightarrow \Delta Y \uparrow$ and so on.

When economy moves in recession:

$\Delta I \downarrow \rightarrow \text{Multiplier} \rightarrow \Delta Y \downarrow \rightarrow \text{Accelerator} \rightarrow \Delta I \downarrow \rightarrow \text{Multiplier} \rightarrow \Delta Y \downarrow$ and so on.

The Paradox of thrift

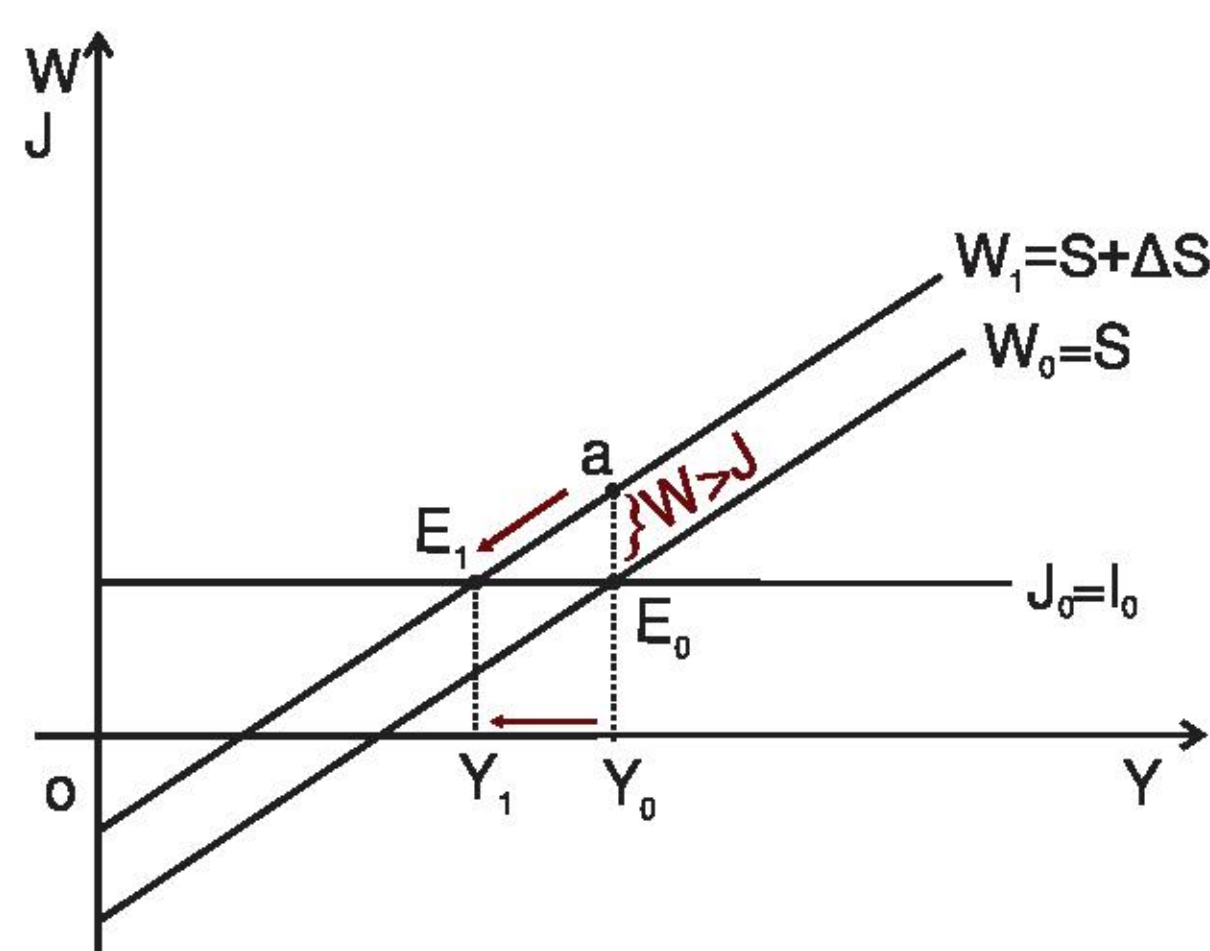
Keynes argued that what people plan to save and what in fact they do save are different things. An increased desire to save does not necessarily result in a higher level of saving. It could, indeed cause the total level of saving to fall.

Definition:

"If an individual plans to save more (Thriftiness) in a society, the total level of savings either stays the same or fall."

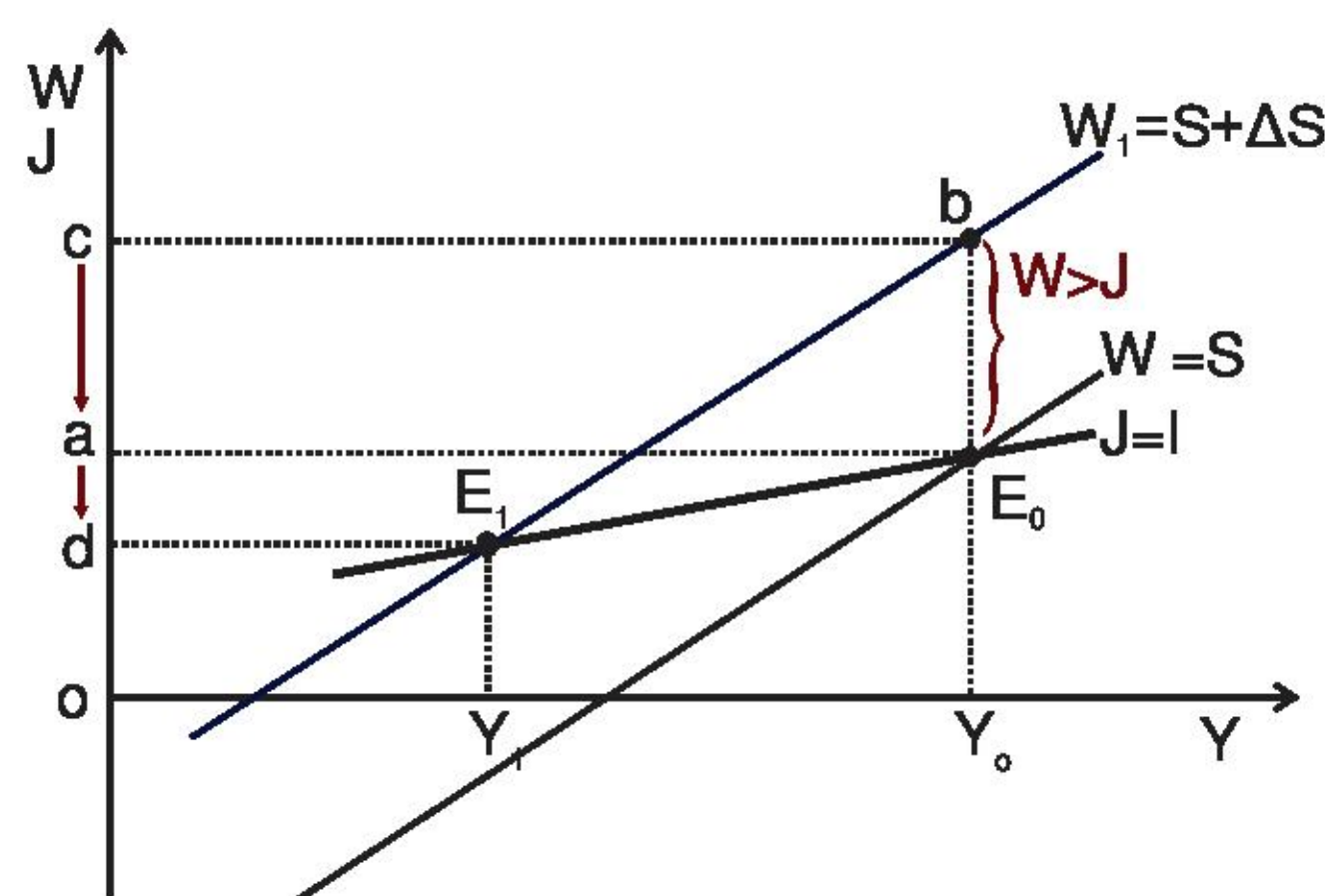
Explanation:

We will now consider what happens if there is increased thriftiness (saving) in a 2-sector economy. Thriftiness is usually regarded as desirable. However, changes in the propensity to save can have unusual consequence.



In figure above, the effect of an increase in savings is to shift the savings line from W to W_1 , so the equilibrium changes from E_0 to E_1 . The effect of increased saving is, therefore, to decrease the equilibrium level of national income. This comes about because if, at a given level of income, people save more, they will automatically consume less. Therefore there is less demand for goods and services. Since most incomes are derived directly or indirectly from the production and state of goods and services, it follows that there will be less income.

This is the Paradox can be further developed if we dispense with the assumption that investment is autonomous. Let us now assume that investment increases with the income so that the investment line now slopes upwards from left to right. In figure below we again consider the effect of an upward shift in the savings line.



Here the Paradox is fully illustrated in that not only does increased saving bring about a lower level of income and investment but it also leads, ultimately, to less being saved. This effect comes about because there is a lesser ability to save at lower levels of income. People's planned increased saving has been frustrated by the fall in income which it occasions. It can also be seen from figures above that there is a multiple effect (downwards) from the change in saving. The paradox of thrift is that an increase in the level of planned savings may bring about a fall in the level of savings.

The Paradox of thrift helps us to understand an old debate about the virtues of saving and spending. Does society benefit from thriftiness and a high level of desired saving at each income level? The answer depends on whether or not the economy is at full employment.

In times of inflation increase in savings might reduce the inflationary pressure in the economy and therefore be a desirable thing. If, however, we have an economic depression, with lots of unemployment, an increase in thriftiness could be quite disastrous, taking us into a vicious deflationary spiral. It would appear, therefore, that if we **'tighten our belts'** in times of economic depression, the depression is likely to be made even worse. As Keynes wrote in 1931: 'Whenever you save five shillings you put a man out of work for a day.'

Tax Multiplier

Any change in tax will have a multiple effect on national income and this process will be known as tax-multiplier.

Tax multiplier is smaller than the expenditure multiplier (i.e., consumption, investment, government spending or export multiplier) by a factor equal to MPC.

$$\text{Tax Multiplier} = \text{MPC} \times \text{Expenditure Multiplier} = \text{MPC} \left(\frac{1}{1-\text{MPC}} \right)$$

The reason the tax multiplier is smaller than the expenditure multiplier is straight forward. When government spends \$1 on government spending (G), that \$ 1 gets spent directly on GDP. On the other hand, when government cuts taxes by a dollar, only part of that dollar is spend on C, while a fraction of that \$ 1 tax cut is withdrawn. The difference in the responses to a dollar of G and to a dollar of T is enough to lower the tax multiplier below the expenditure multiplier.

Balanced Budget Multiplier

It can be argued that the effect to exactly equal changes in taxes and government expenditure (T=G, i.e., balanced budget) is such that, because of differences of expenditure and tax multiplier effects, a new equilibrium will be reached when national income has risen by the amount of the original change in government expenditure ($\Delta Y = \Delta G$).

Suppose that we have an economy with a constant propensity to withdraw (MPW) of 0.2 and MPC 0.8. Now suppose the government increases its spending on goods and services by \$1000 and increases income tax

by \$1000. The effect of the increased spending sets up a multiplier sequence, the value of which will be:

$$\begin{aligned} \Delta Y &= \Delta G \times \frac{1}{1-\text{MPC}} \\ &= 1000 \times \frac{1}{1-0.8} = 1000 \times 5 = \$5000 \uparrow \end{aligned}$$

The effect of the increased tax sets up a multiplier sequence through changes in consumption, the value of which will be:

$$\begin{aligned} \Delta Y &= \Delta T \times \left(\text{MPC} \times \frac{1}{1-\text{MPC}} \right) \\ &= 1000 \times \left(0.8 \times \frac{1}{1-0.8} \right) = 1000 \times 4 = \$4000 \downarrow \end{aligned}$$

Hence net effect of ΔG and ΔT if $\Delta G = \Delta T$ will be:

$$\begin{aligned} \Delta Y &= \$5000 - \$4000 \\ &= \$1000 \uparrow \end{aligned}$$

We can therefore see that the change in income is equal to the original change in government expenditure.

Past Paper Questions

Topic: Determinants Of Investment

1. March 18/P42/Q6/a

Explain the difference between autonomous investment and induced investment. Consider whether there is a link between these two types of investment. [12]

2. March 18/P42/Q6/b

'Governments should concentrate upon providing favourable conditions for investment by firms in the private sector. This would allow all investment in an economy to be carried out by firms in the private sector.' How far would you support this view? [13]

3. Mar 16/P42/Q6/a

Assess how changes in interest rates might influence investment. [12]

4. O/N 15/P41/Q6/a

Explain what are the main determinants of business investment. [12]

5. M/J 15/P43/Q7/a

One macroeconomic indicator is the level of investment. What determines the level of investment? [12]

6. O/N 08/P4/Q7/a

Explain the factors influencing the level of investment in an economy. [10]

7. M/J 06/P4/Q6/a

Explain how changes in interest rates might influence investment. [10]

8. O/N 04/P4/Q3/a

Explain what factors might determine the level of investment in an economy. [12]

Topic: National Income Equilibrium

1. Mar 19/P42/Q6/a

Distinguish between leakages and injections in the circular flow of income and consider how they might be related. [12]

2. M/J 16/P41/Q6/a

Explain what is meant by the equilibrium level of national income, and consider whether it is possible to have such an equilibrium and unemployment at the same time. [12]

Topic: Inflationary & Deflationary Gap

1. M/J 18/P43/Q5/a

Explain what economists mean by a 'deflationary gap' and discuss why this could be considered problematic for an economy. Use a diagram to illustrate your answer. [12]

2. O/N 12/P41/Q5/a

Explain what is meant by an inflationary gap. [12]

Topic: Multiplier Process & Accelerator

1. O/N 18/P42/Q6/a

A country with an open economy has an increasing demand for its exports and a fall in the supply of labour. Explain the effects of these changes on the general price level and national output in that economy. [12]

2. Mar 16/P42/Q6/b

Some argue that increases in investment cause national income to increase. Others argue that the reverse is true: an increase in national income brings about investment. Discuss whether both these seemingly contradictory statements can be true. [13]

3. O/N 15/P41/Q6/b

'If investment increases it will cause an increase in output. If output increases it will cause an increase in investment.'

Discuss whether both these statements can be true.

[13]

4. M/J 15/P43/Q7/b

One macroeconomic indicator is the level of investment.

Discuss how a large increase in the level of investment may affect an economy and whether such an increase is always beneficial.

[13]

5. M/J 14/P43/Q5/a, M/J 14/P41/Q5/a

Explain what is meant by a country's national income multiplier and **two** reasons why the value of the multiplier might fall.

[12]

6. O/N 11/P43/Q3/a

Car companies employ thousands of people and are an important part of the international trade of some countries. During the recession in 2009 some governments gave subsidies to consumers to encourage them to replace their old cars with new ones.

Explain what effects an increase in consumer expenditure and an increase in government subsidies might have on national income.

[12]

7. M/J 11/P42/Q6/a

An increase in investment will raise national income but an increase in the desire by consumers to save will reduce national income. Explain why this is the case.

[12]

8. M/J 11/P41/Q6/b

Analyse how a change to the equilibrium level of income resulting from the multiplier process might lead to unemployment or inflation.

[13]

9. O/N 10/P43/Q7/b

Use the concept of the multiplier to discuss how an increase in investment in a developed country might affect both the developed country and developing countries.

[13]

10. O/N 10/P41/Q6

Explain what is meant by an equilibrium level of national income and discuss why this equilibrium might change in a developing country.

[25]

11. M/J 09/P4/Q7/a

A World Bank report in 2007 commented on the continuing need for major spending worldwide on infrastructure on everything from roads and railways to water and electricity generation. Explain the effect on national income when there is an increase in spending on infrastructure.

[10]

12. O/N 08/P4/Q7/b

Discuss the extent to which national income is determined by private investment.

[15]

13. O/N 07/P4/Q4/b

The World Bank has given a loan to support the Ugandan government's road development programme. Improved roads into economically productive rural areas will have a major impact on the country's economy. Use economic analysis to discuss why there will be a major impact on the economy from the road development programme.

[15]

14. O/N 06/P4/Q6/b

In some countries it is said that the use of credit cards by many people has resulted in huge debts as people spend far more than they earn. Discuss what might be the consequences of a large increase in consumer spending.

[15]

15. M/J 06/P4/Q6/b

'If investment increases it will cause an increase in output. If output increases it will cause an increase in investment'. Discuss whether both these statements can be true.

[15]

16. O/N 05/P4/Q6/a

With the approval of the Malaysian government, the Swedish company IKEA, the world's largest retailer of home furnishings, has invested \$106 million in Malaysia in the past three years. It now plans to open another large store in the country, employing 450 people, with expected sales of approximately \$50 million in the first year.

Use multiplier analysis to explain what effect this investment might have on the Malaysian national income.
[10]

17. M/J 05/P4/Q3/a

In 2002 there was a dangerous virus in China which caused many deaths. By July 2003 China had eliminated the virus and, as a result, there was a revival in tourism and consumer spending. Retail sales rose at the fastest pace for six months.

Explain the effect of a rise in consumer spending on China's national income. [12]

18. O/N 04/P4/Q3/b

Analyse what effects an increase in investment might have on an economy. [13]

19. M/J 03/P4/Q6/a

Use the multiplier process to explain the effect of an increase in investment by firms on output and prices in an economy. [13]

20. O/N 02/P4/Q4/b

Discuss how an increase in injections may affect the equilibrium level of national income. [15]

Topic: Strength Of Multiplier

1. M/J 15/P41/Q6/a

In 2013, a new aircraft, the Boeing 787 Dreamliner, was assembled in the United States (US). United Airlines, an American private company, ordered 50 of these aircraft, each costing over US\$200 million. Imagine that the US was a closed economy with no government intervention. Analyse why the increase in national income from this investment in new aircraft might be different than if it were an open, mixed economy. [12]

2. M/J 11/P41/Q6/a

Explain how the impact of the Keynesian multiplier process will change if a free-market closed economy becomes a mixed economy with foreign trade. [12]

3. M/J 10/P41/Q6/a

A firm undertakes a major investment. Analyse why in a closed economy without a government the increase in national income from this investment might be higher than in an open mixed economy. [12]

Topic: Paradox Of Thrift

1. M/J 14/P42/Q5/a

It was reported in 2012 that consumers should not be encouraged to save more and reduce their debts. Increased saving would result in a Keynesian 'paradox of thrift' which would not help economic growth. Instead consumers should spend money on new purchases.

(Source: The Times. 2011)

Explain and comment on what is meant by 'the paradox of thrift'. [12]

UNIT 4

Money, Banking and Interest Rate Determination

A2 Level

Macroeconomics

Notes Book 4

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Syllabus 2019 – 21

a. Money and banking

- money supply (theory)
- broad and narrow money supply
- sources of money supply in an open economy
 - commercial banks and credit creation
 - role of central bank
 - quantitative easing
 - total currency flow

b. The demand for money and interest rate determination

- Liquidity Preference theory

Unit 4 Money, Banking and Interest Rate Determination

Money

Anything that acts as medium of exchange is money.

Concept of Liquidity

Ease to convert assets into cash form for payments without major loss.

Liquid Assets	Illiquid Assets
– Cash – Treasury (T) bills: government saving certificates issued at discounted rate for 90 days	– Bonds (governments securities) are those government saving certificate which are issue at discounted rate (i.e. less than their face value) for a long period of time (usually more than one year) and which have and fixed amount of interest per annum regardless of their market price.

Narrow Money /M₀/Monetary Base/High Powered Money

It consists of Notes and Coins + Banker's operational deposits with central Bank.

$$M_0 = \text{Notes and Coins} + \text{Banker's Operational deposits}$$

Banker's operational deposits mean the money kept by commercial banks in the central bank for settling debts b/w each other and to draw-out cash when needed.

Broad Money/M₄

$$M_4 = M_0 + \text{Bank Deposits} + \text{Building Society's Deposits}$$

Banking:

Central Bank

Examples of which are, The Bank of England, The State Bank of Pakistan, etc.

A Central Bank carries the following functions:

- Acts as a banker's bank
- Prints, Issue New Notes and Coins
- Controls money supply in the Economy
- Act as Government Bank
- Deals with National Debt, foreign reserves
- Lender of the Last Resort
- Independent Body

Retail/Commercial/Joint Stock Bank

Profit-making organization. (e.g., MCB, Bank Alfalah, Standard Chartered, etc.)

A Commercial Bank performs the following functions:

- Accepting deposits
- Making Advances (Loans)
- Acting as agent of payment
- Trustee
- Safe keeping of Valuables
- Creating deposit money
- Dealing with foreign exchange

Credit Creation Process:

"Commercial Banks don't print notes but they create money"

Commercial banks create credit by accepting deposits from the people who want to save and lending out a portion of it to the people who want to borrow. This process is called as "Credit Creation". To explain this process, following assumptions are made:

- It is a **multiple-bank system**. Multiple bank system means many banks are operating in the country.
- Banks can hold only two kinds of assets. i.e. **cash and loans** to the customers.
- There is only one kind of deposits i.e. **sight deposits** which earns no interest and can be withdrawn on demand.
- All payments are made by **checks**.
- We assume that there are **no cash drains** from the banking system. Public wishes to hold a fixed and unchanging amount of currency.
- Banks **don't keep any excess reserves** and keeps their liquidity ratio (LR) fixed. "Liquidity Ratio" is the ratio between the total amount of cash reserves kept by the commercial bank for its day-to-day running and total deposit liabilities of the bank.

$$\text{Liquidity ratio (LR)} = \frac{\text{Total Cash Reserves}}{\text{Total deposit liabilities}} \times 100$$

Assume that commercial banks have 20% fixed liquidity ratio (LR).

When Mr. Ali deposits £1000 into Bank 'A.' Before making a loan by bank, its balance sheet will appear like:

Bank 'A'					
Dr.	Assets	£	Cr.	Liabilities	£
	Cash	£1000		Deposits	£1000
		£1000			£1000

Bank 'A' will keep 20% of this new deposit as cash reserve and lend out £800 to the Mr. Umer. A check is given to Mr. Umer which he deposits in his account in Bank 'B'. Bank 'B' will keep 20% as reserve cash and Lend rest of the money (£640) to Mr. Rashid who deposit in Bank 'C'.

Bank 'A's and B's Balance sheets will appear after making loans like.

Bank 'A'					
Dr.	Assets	£	Cr.	Liabilities	£
	Cash	£200		Deposits	£1000
	Loan	£800			
		£1000			£1000

Balance B's Balance Sheet					
Dr.	Assets	£	Cr.	Liabilities	£
	Cash	£160		Deposits	£800
	Loan	£640			
		£800			£800

After accepting £640 deposit by Bank 'C', it will also keep 20% as cash reserves and lend rest of the money to somebody else. Bank C' Balance sheet would be:

Balance 'C'					
Dr.	Assets	£	Cr.	Liabilities	£
	Cash	£128		Deposits	£640
	Loan	£512			
		£640			£640

This process of accepting deposits, keeping a fraction in reserves and lending out rest of the deposit will be carried on to the 'n' number of banks. This can be summarized in the following table.

Bank	Deposits	Loan	Cash Reserves
A	£1000	£800	£200
B	£800	£640	£160
C	£640	£512	£128
D	£512	⋮	⋮
⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮
All Banks	£5000	£4000	£1000

Total amount of deposits and created deposits can be calculated through deposit multiplier.

Credit multiplier is defined as an initial deposit in banking system creates a multiple deposits in the system.

$$\text{Liquidity ratio (LR)} = \frac{\text{Total cash reserves}}{\text{Total deposits}}$$

So

$$\text{Credit Multiplier} = \frac{1}{\text{LR}}$$

Here in this case

$$\begin{aligned} \text{Credit multiplier} &= \frac{1}{20\%} \\ &= \frac{1}{0.2} = 5 \end{aligned}$$

Which means an initial deposit of £1000 will create total deposits of £5000 (5 times of initial deposit).

$$\begin{aligned} \text{Total Deposits (Money Supply)} &= \text{Initial Deposit} \times \text{Credit Multiplier} \\ &= 1000 \times 5 = £5000 \end{aligned}$$

Thus created deposit by the banking system with 20% liquidity ratio and an initial deposit of £1000 would be:

$$\begin{aligned} \text{Created Deposit (Created Money)} &= \text{Total Deposit} - \text{Initial Deposit} \\ &= £5000 - £1000 \\ &= £4000 \end{aligned}$$

Although commercial banks cannot create notes and coins but they can create credit by giving out loans. The amount of cash money remains same in the Economy but the deposit money increases with credit creation process.

It must be noted that money supply multiplier works in both direction, i.e., if the deposits are withdrawn, the net effect will be a decrease in total deposits by a multiple of that amount withdrawn.

Limitations of Credit Creation Process

1. Banks may chose different liquidity ratio (LR)) at certain times.

- Periods of High demand for cash by public, e.g., Eid holidays, summer vacations, marriages season (November to February in Pakistan)
- Period of high demand for credit by consumers Banks may extend their credit beyond their liquidity ratio to earn more profits.
- Banks may be prudent and keep more cash (liquid assets) than the liquidity ratio.

2. Insufficient Demand for Credit

Banks will not be able to create deposits to the extent of full deposit multiplier because of low demand for loans by the society.

3. Credit Worthiness of Society:

Credit Worthy Society → More credit creation
Society of Defaulters → Low credit creation.

4. Cash Drains (Withdrawals)

During the process of credit creation, we have assumed that there is no withdrawal during the creation process. But in the real world, cash withdrawals of initial deposit will limit the credit creation process.

5. Bank's ability to attract customers:

Poor quality services and ill-reputations will limit the banks credit creation ability as they will find very less new deposits.

6. Cash-less or Traditional Society:

Cash-less society → Using credit cards and checks → Cash to bank deposit ratio is very low.

Traditional society → Using cash mostly for transactions → Cash to bank deposit ratio is very high

Interest Rate Determination**Definition:**

"Interest rate is the price a borrower has to pay to enjoy the use of cash which he doesn't own, and the return a lender enjoys for parting with liquidity."

Base Interest Rate (ir):

Base interest rate is the one on which all types of interest rates are based and hereafter interest rate will stand for base interest rate.

Nominal Interest Rate:

It is the rate of interest measured at current year prices and it includes inflation.

Real Interest Rate

Interest rate measured with base year prices and adjusted for inflation is called as real rate of interest.

Nominal Interest rate can be converted into real rate of interest by following formula:

$$\text{Real Interest rate} = \text{Nominal Interest rate} - \text{Rate of Inflation}$$

Theories of interest rate determination:

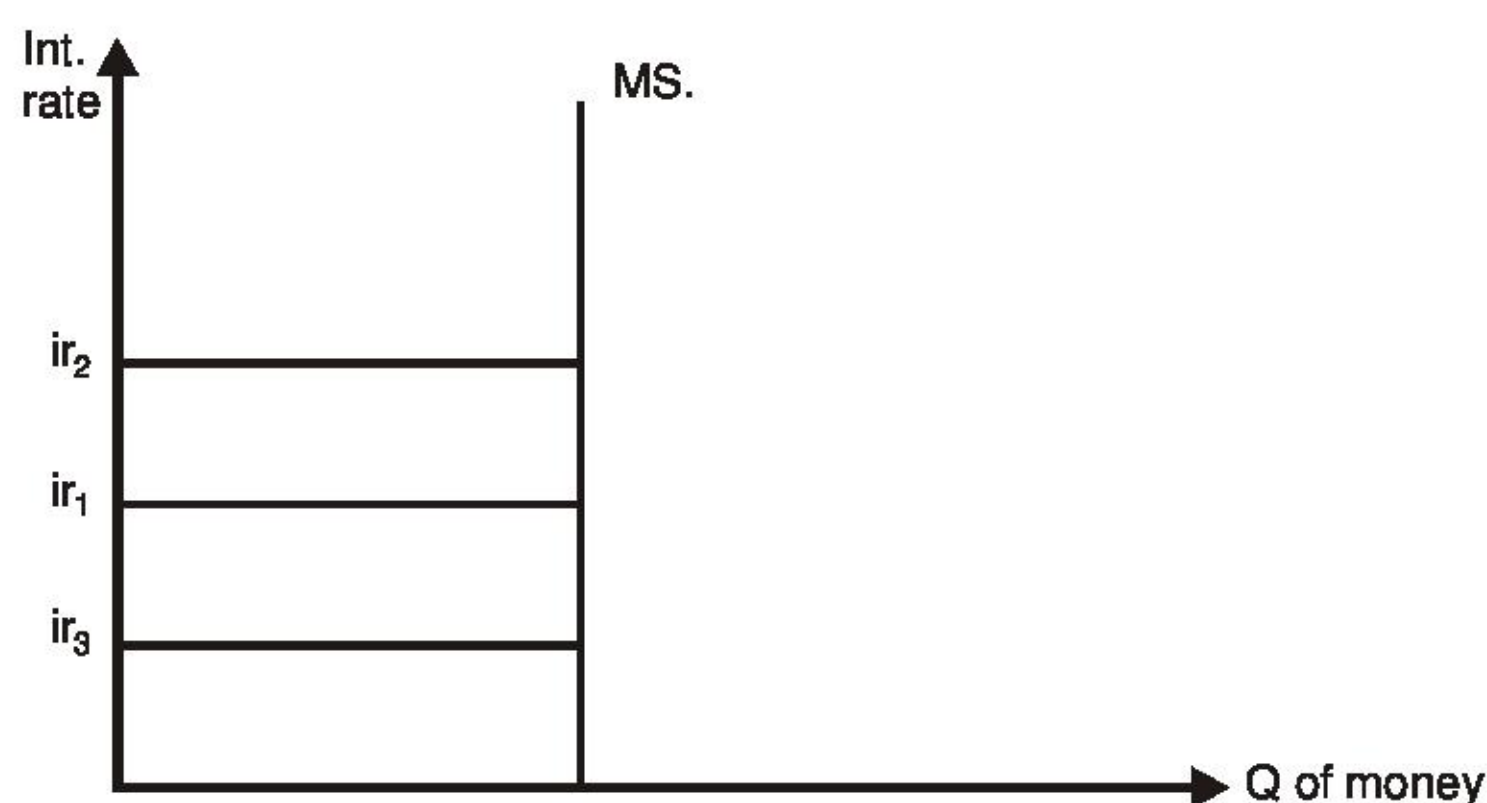
- Liquidity preference theory

Liquidity Preference Theory (LPT):

According to Liquidity Preference Theory, interest rate is determined by the total demand for money and its interaction with supply of money.

Money Supply (Ms):

Money supply is controlled by central bank and totally interest inelastic.

**Determinants of Money Supply:**

1. Open Market Operations (Quantitative easing)
2. Liquidity Ratio
3. Discount Rate
4. Special Deposits
5. Qualitative Measures
6. Deficit financing

1. Open Market Operations: (Quantitative easing)

Buying of bonds and securities from, and selling of bonds and securities to the commercial banks and general public is known as open market operations.

Redeeming of bonds and securities		Issuing of bonds and securities	
From general public	From commercial banks	To the general public	To the commercial banks
More money in the hands of public	More cash reserves in commercial Banks	Less money would be left in the public hands to buy bonds and securities	Less cash reserves left when commercial banks buy government bonds and securities.
Money in circulation ↑	Credit creation ability ↑	Money in circulation ↓	Credit creation ability ↓
Money Supply ↑	Money Supply ↑↑	Money Supply ↓	Money Supply ↓↓

2. Liquidity ratio (LR):

Liquidity ratio (LR)	
LR or LR ↑	LR or LR ↓
Credit creation ↓ → Money Supply ↓	Credit creation ↑ → Money Supply ↑

3. Special Deposits:

Commercial Banks can be asked to deposit a given percentage of their deposits in a special account at the central bank. These special deposits can be **frozen** and **released** according to the government monetary policy to limit or increase the credit creation ability of commercial banks respectively.

4. Discount Rate:

Central bank is the "lender of the last resort." If commercial banks run-short of their cash, they can borrow from the central bank. Central bank lends money to the commercial banks and charges interest over it. This interest rate charged by central bank is known as "Discount Rate". Government can limit and increase commercial Bank's credit creation ability by changing discount rate.

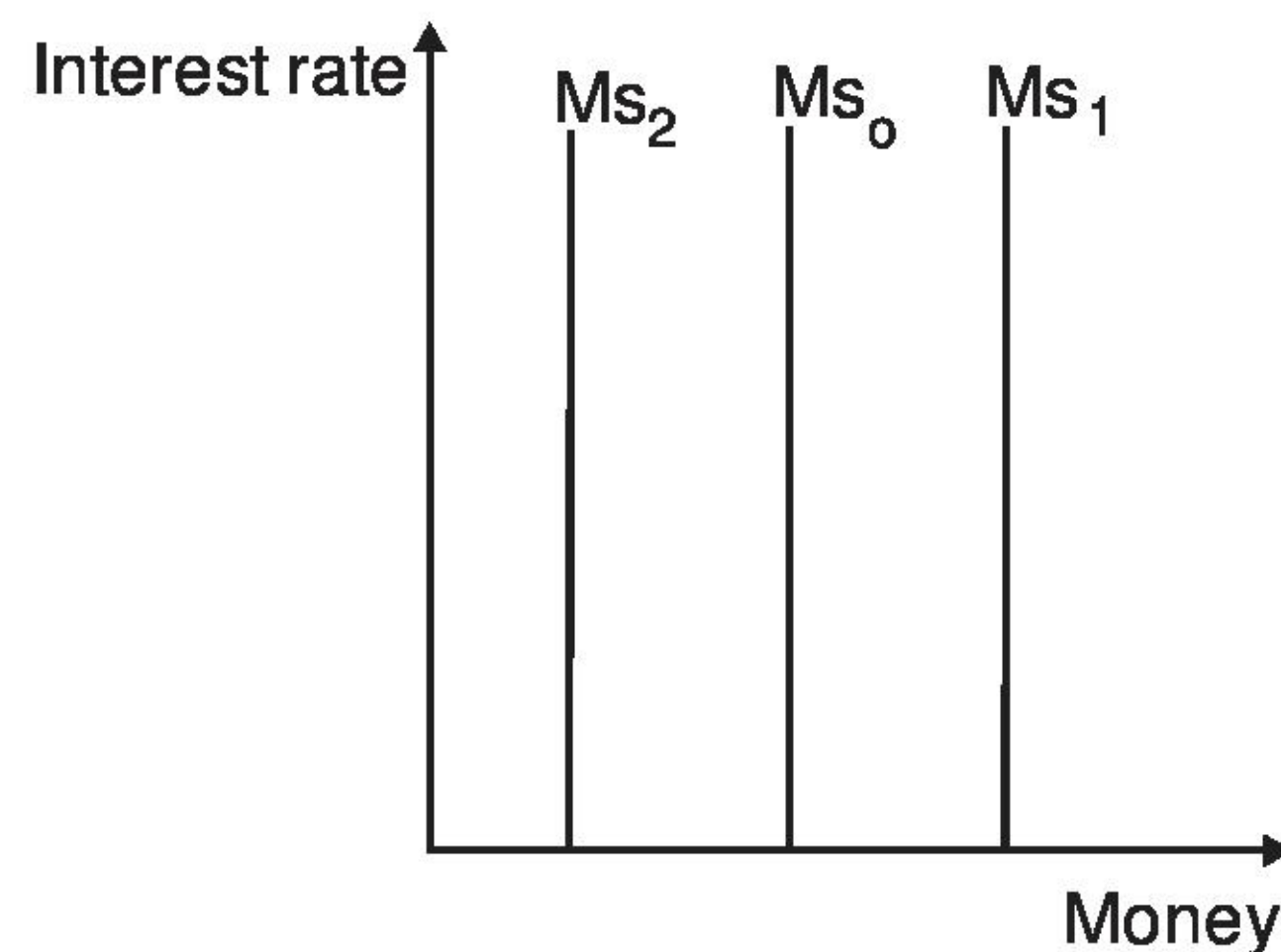
5. Qualitative Measures:

Central bank can issue special directions to the commercial banks for not lending loans to the borrowers who want to buy consumer durables in the periods of Inflation. Central bank can also persuade commercial banks to follow the policies of central bank.

6. Deficit Financing:

If government spending exceeds taxation in year, it means government is running budget deficit. Extra money that government injects in case of budget deficit

If	then	Rationale
Increase in government spending (G) financed by sale of bonds to commercial banks	Money Supply ↓	Bonds are illiquid assets and purchase of bonds by commercial banks will reduce their lending ability by multiple according to credit multiplier value
Increase in government spending (G) financed by sale of treasury bills (T-Bills) to commercial banks	Money Supply ↑	Treasury bills are liquid assets and therefore does not reduce banks lending ability
Increase in government spending (G) financed by lending from central banks	Money Supply ↑	Money for extra government spending is not withdrawn from current circulation.
Increase in government spending (G) financed by sale of bonds to general public.	Money Supply = Unchanged	Money injected in the form extra government spending is balanced by equivalent withdrawal of money when bonds are sold to general public.
Increase in government spending (G) financed by privatization of state owned assets	Ms = Unchanged	Similar argument as in case of sale of bonds to general public.



Demand for Money/Liquidity Preference (LP):

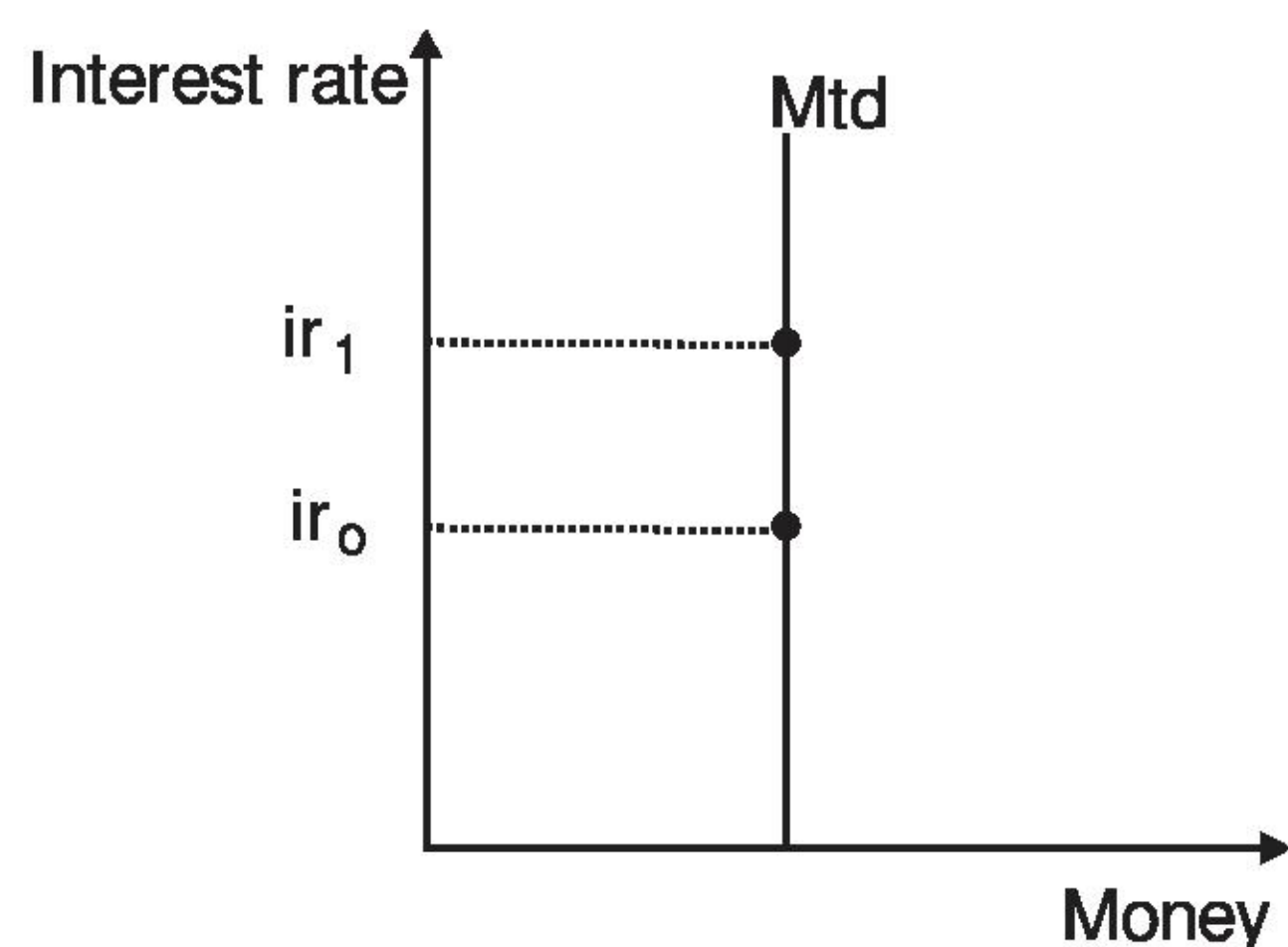
Liquidity preference (LP) means preference to hold liquid asset or cash for the purpose of transactions, precautions and speculation.

1. Transactions Motive:

People hold liquid assets (cash and current a/c) for transactions purpose, because money is the medium of exchange. This is because people receive money in intervals and not continuously, that's why they used to hold some of money in cash for to meet their daily transactions.

E.g.:

- Households: Buying of food, clothing, paying of f bills, etc.
- Firms: stationary, raw materials, wages, etc.
- Government: To meet daily expenditures of government offices, etc.



- Mtd = Money transactions demand
- Mtd is independent of interest rate (ir) and therefore perfectly inelastic curve as shown in above diagram

$ir \uparrow$ or $ir \downarrow \Rightarrow Mtd$ constant i.e Perfectly inelastic to interest rate.

Determinants of Mtd

1. Income

$Y \uparrow \rightarrow Mtd \uparrow$
 $Y \downarrow \rightarrow Mtd \downarrow$

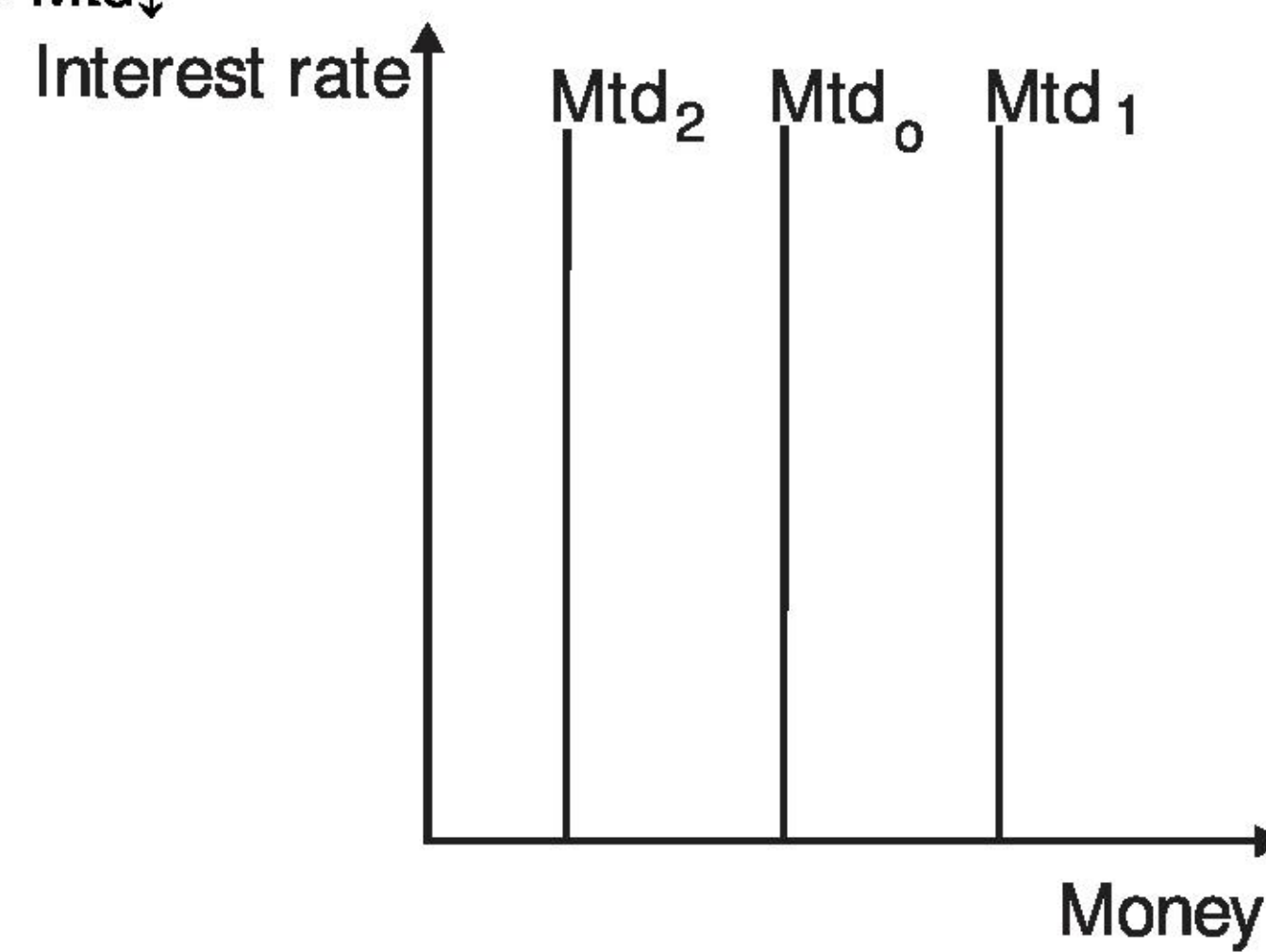
2. Inflation

Price Level $\uparrow \Rightarrow Mtd \uparrow$ (because more cash is needed to buy the same quantity of goods and services.)

3. Intervals of income received:

- Long intervals $\rightarrow Mtd \uparrow$ (Daily $\Rightarrow$ weekly $\Rightarrow$ Monthly $\Rightarrow Mtd \uparrow$)

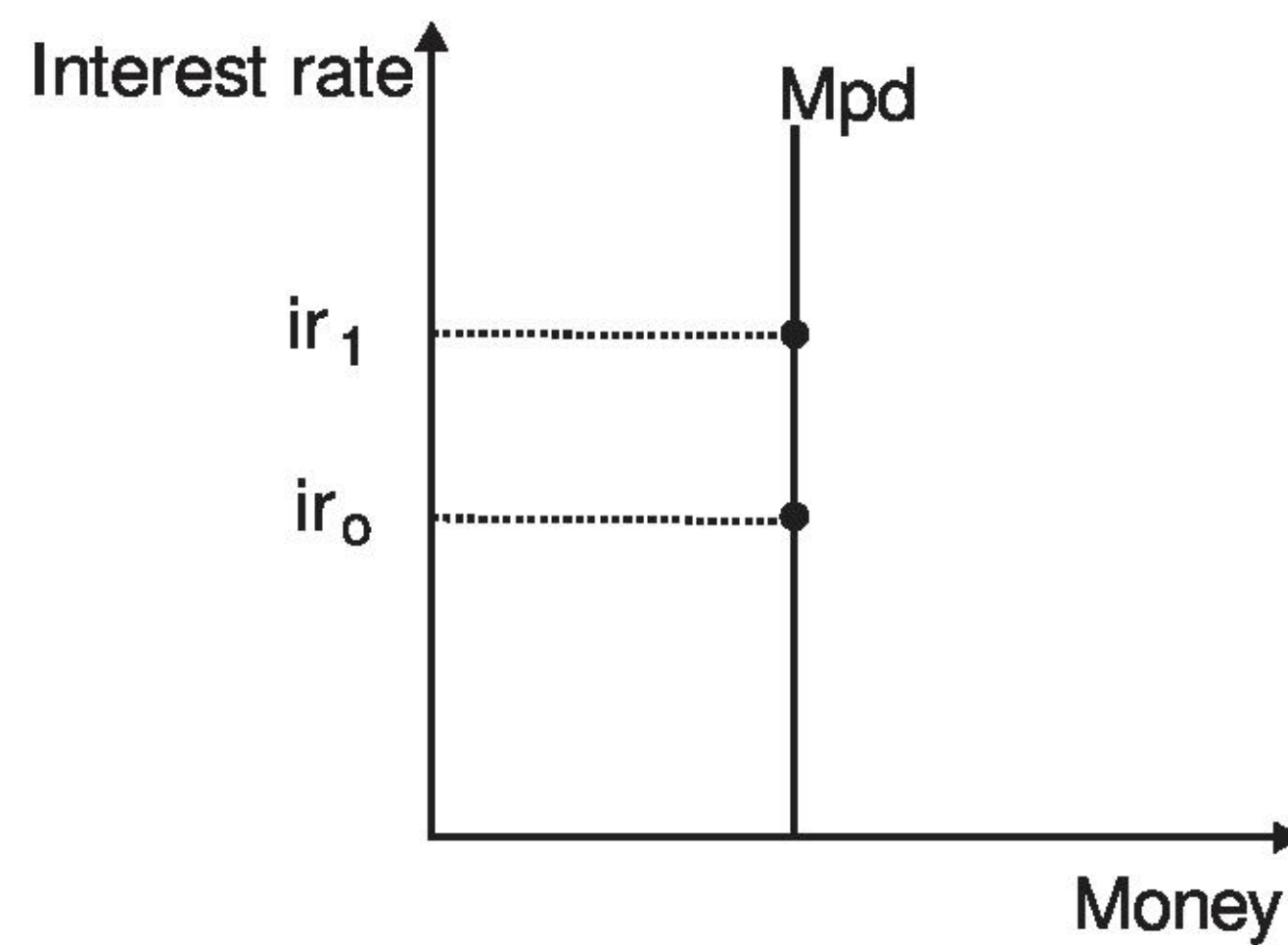
- Short intervals $\rightarrow$ $Mtd \downarrow$



2. PRECAUTIONARY MOTIVE (Mpd)

- Holding of liquid assets for future uncertainties
- $Mpd \Rightarrow$ money precautionary demand
e.g.
- Households: job loss, theft, accidents, hospitalization, death, etc.
- Firms: Fire, theft, accidents, breakdown of machinery losses, etc.

$ir \uparrow$ or $ir \downarrow \Rightarrow Mpd$ constant (i.e., perfectly inelastic to interest rate).



Determinants of 'Mpd'

1. Income

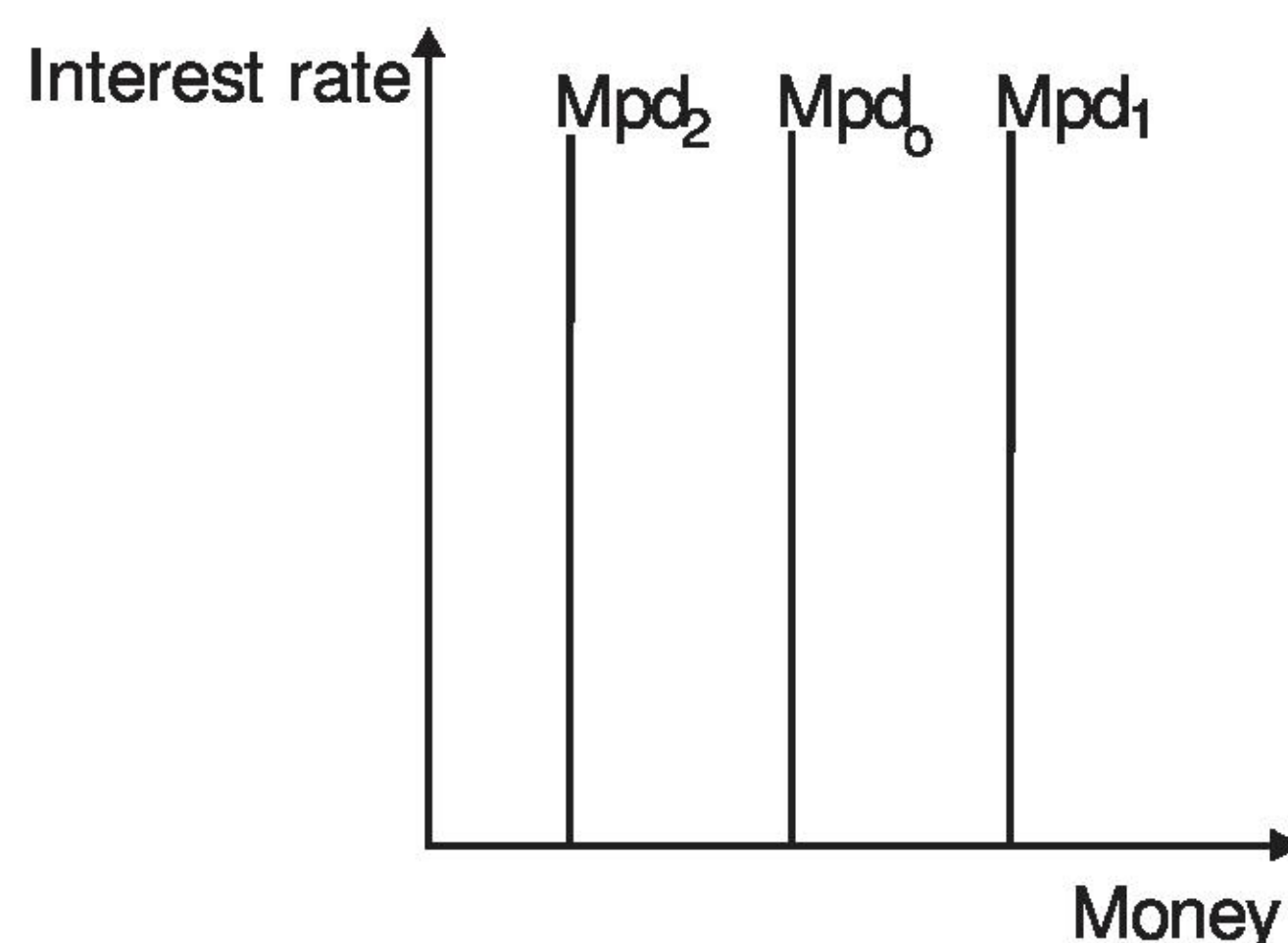
Income $\uparrow \rightarrow mpd \uparrow$

Income $\downarrow \rightarrow mpd \downarrow$

2. Inflation

Inflation $\uparrow \rightarrow mpd \uparrow$

Inflation $\downarrow \rightarrow mpd \downarrow$



3. SPECULATIVE MOTIVE (M_{sd})

- M_{sd} = Money speculative demand
- Speculation means purchase of an asset for short-term capital gain from the difference sale and purchase price of an asset.
- Assumption of LPT that people will hold only two forms of assets—i.e., cash (liquid asset) and bonds (liquid assets)
- **Bonds** (governments securities) are those government saving certificate which are issue at discounted rate (i.e., less than their face value) for a long period of time (usually more than one year) and which have a fixed amount of interest per annum regardless of their market price.

$$\text{Interest rate (ir)} = \frac{\text{Amount of interest}}{\text{market price of bond}} \times 100$$

Relationship b/w 'ir' and price of bonds

$$\text{Interest rate} \propto \frac{1}{\text{price of bond}}$$

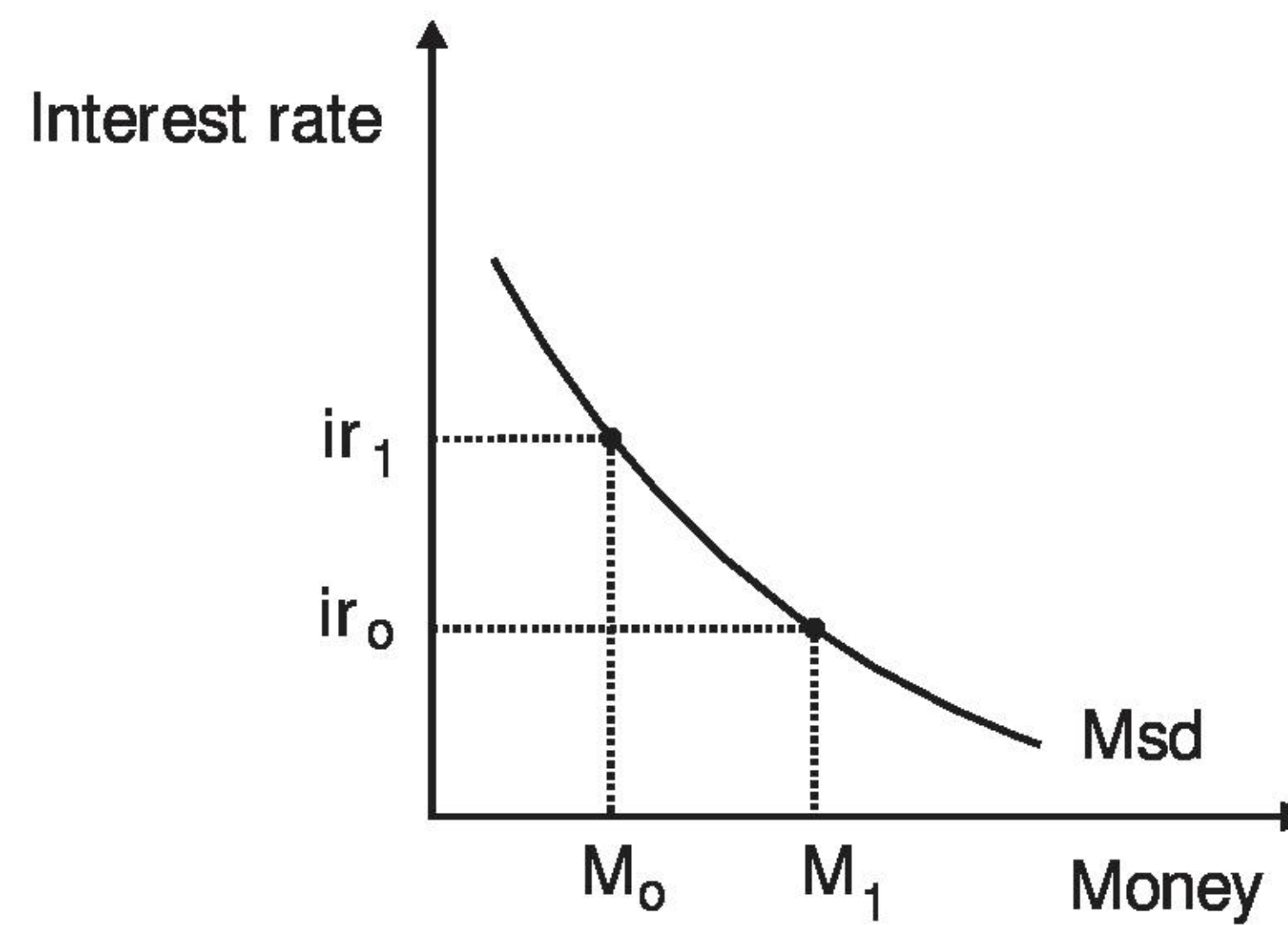
Example

	Initially	Later On
Price Of Bond	100	50
Fixed Amount Of Interest	10	10
Interest Rate	$\frac{10}{100} \times 100 = 10\%$	$\frac{10}{50} \times 100 = 20\%$

Price of bond ↓ → ir ↑ Price of bond ↑ → ir ↓	ir ↓ → Price of bond ↑ ir ↑ → Price of bond ↓
--	--

Speculators speculate of higher prices in future if current prices of bonds are low and fall in price of bonds if current price is high.

If current interest rate is HIGH	
Price of bond = LOW ↓ Speculators will expect (RISE) in price of bonds in future. ↓ People will prefer to hold (Less) Cash and (more) bonds	Opportunity cost of holding cash (i.e., loss of interest that can be earned is high) ↓ People will prefer to hold (Less) Cash and (more) bonds
Msd = Low	



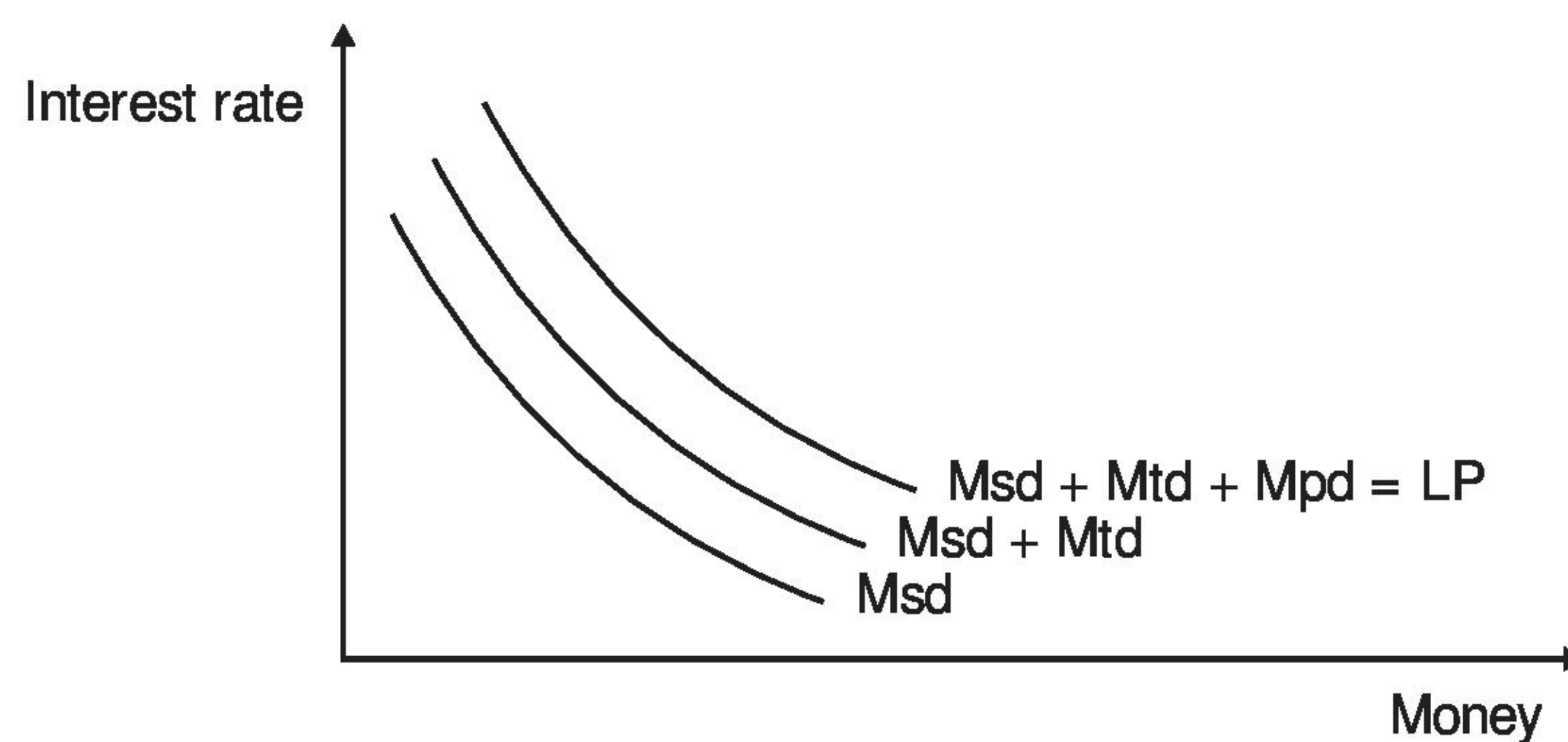
- Similarly if current rate is low $\Rightarrow$ vice versa to above
- Keynesians believe that Msd is interest inelastic and monetarists believe that Msd is interest elastic

Liquidity preference (LP) or demand for money:

$$\text{Active Balances} = M_{td} + M_{pd}$$

$$\text{Idle Balances} = M_{sd}$$

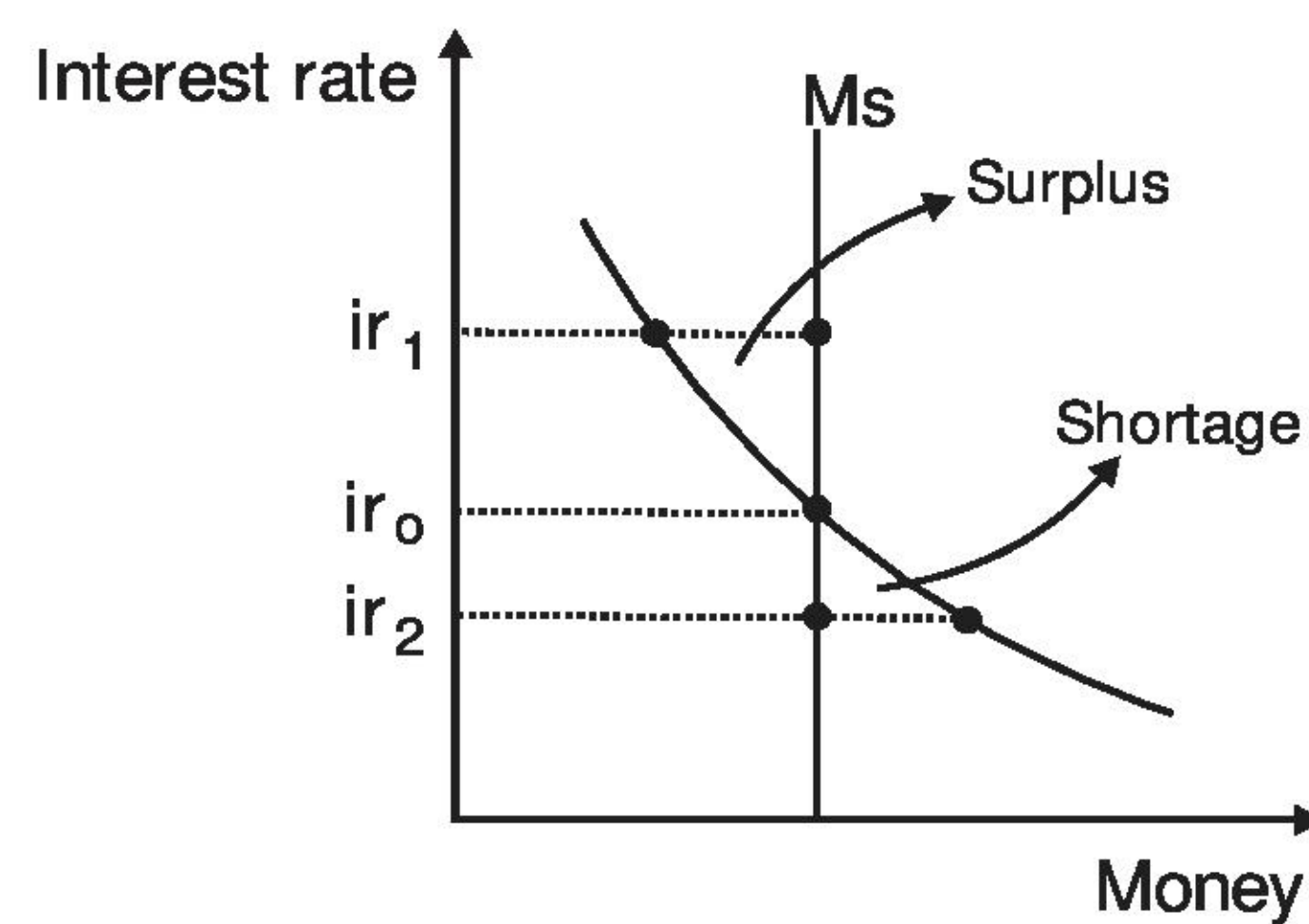
$$LP = M_{td} + M_{pd} + M_{sd}$$



Equilibrium Interest Rate:

Where

$$LP = M_s$$



At ir_1

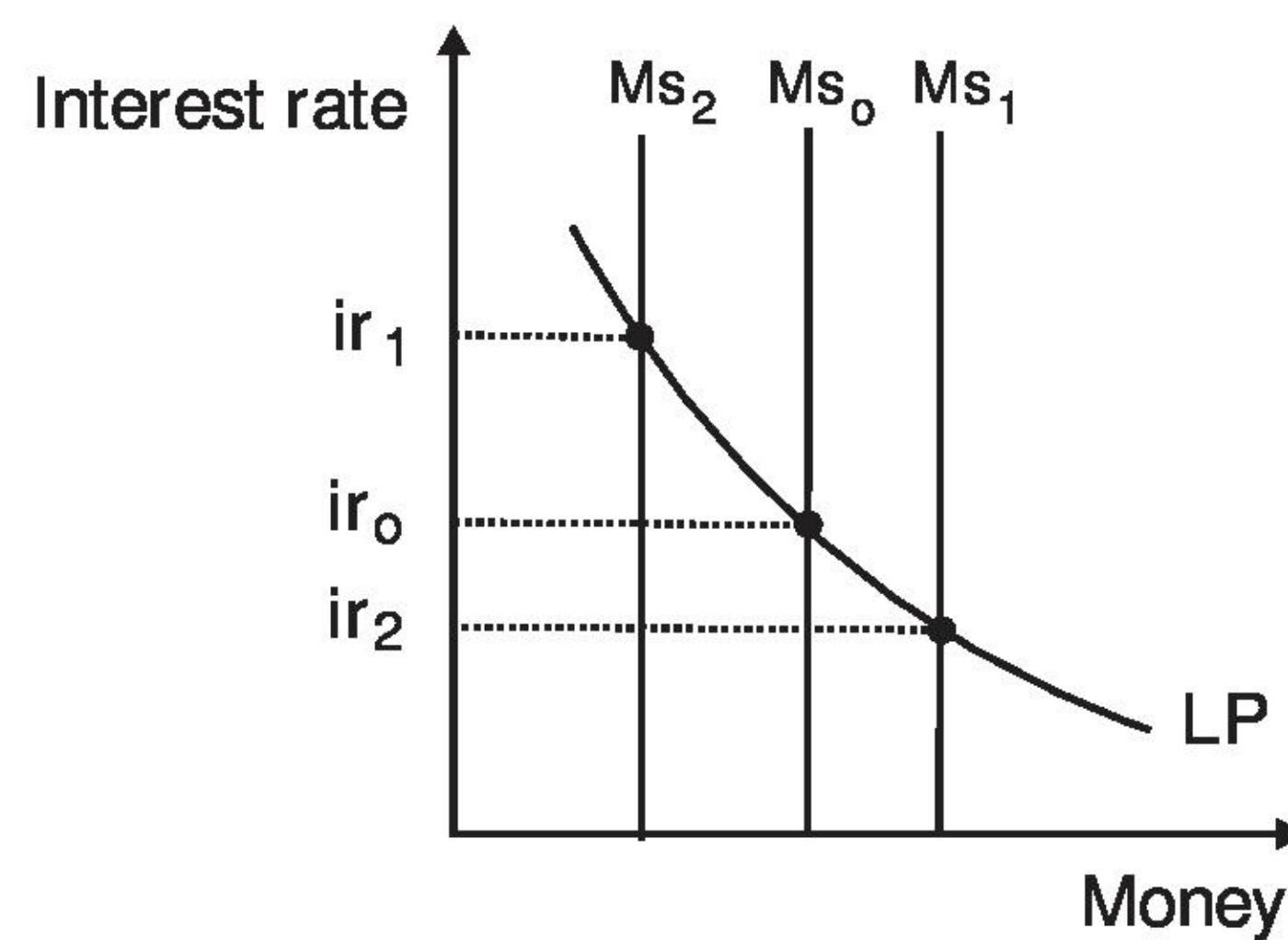
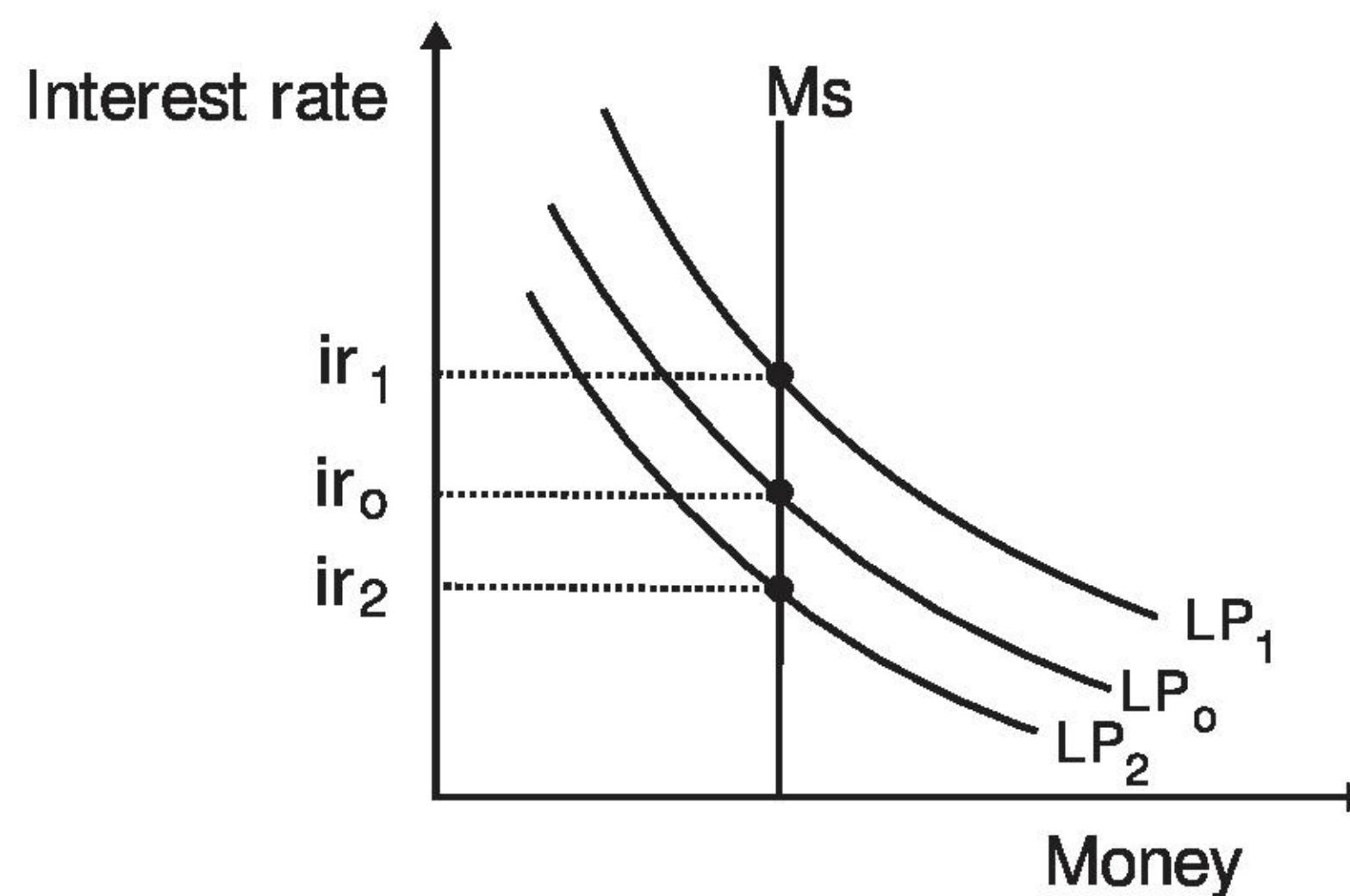
$M_s > LP \rightarrow$ Surplus of liquid assets $\rightarrow$ Buying of bonds $\uparrow \rightarrow$ Demand for bonds $\uparrow \rightarrow$ Price of bonds $\uparrow \rightarrow ir \downarrow$

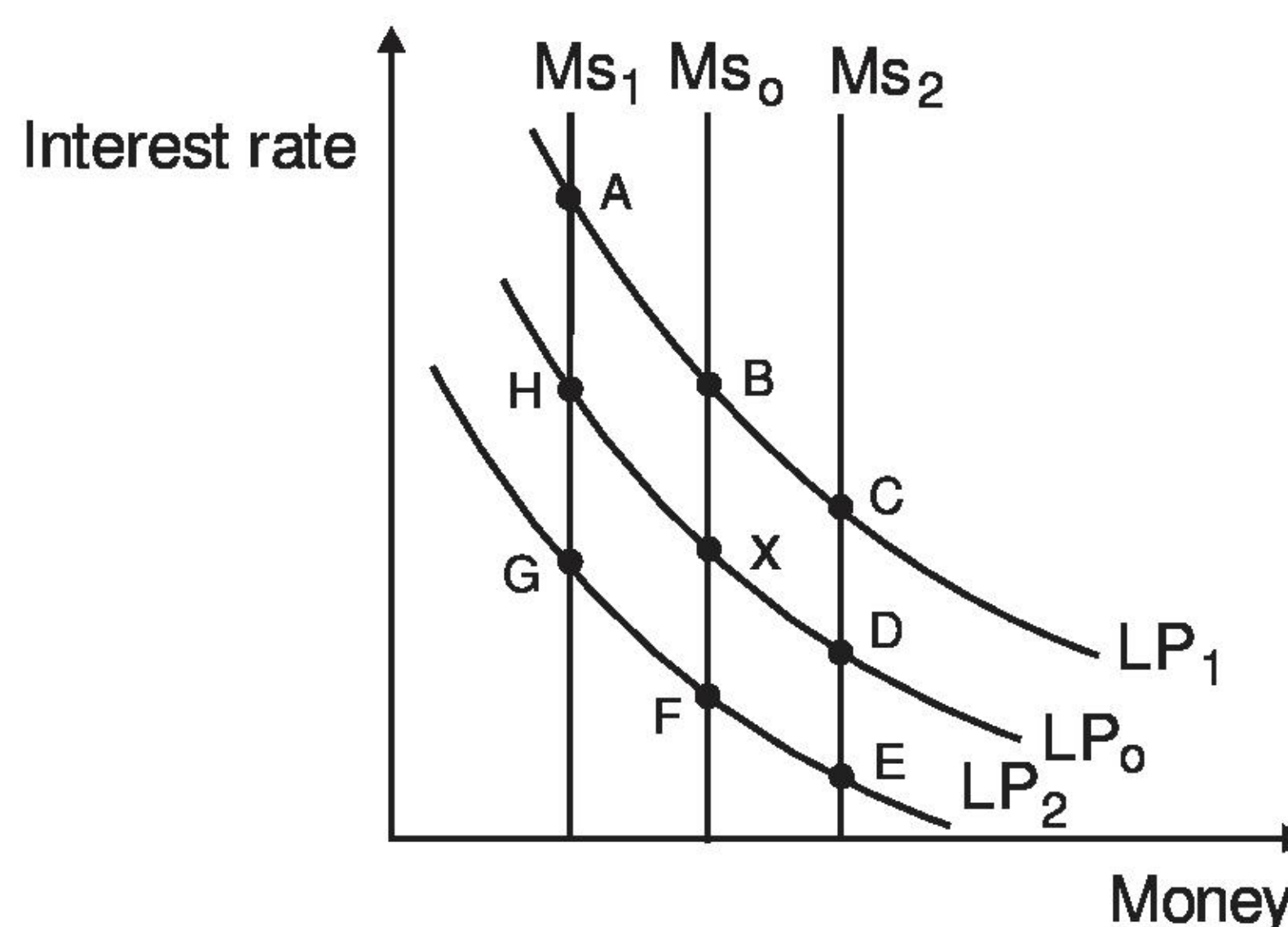
At ir_2

$M_s < LP \rightarrow$ Shortage of liquid assets $\rightarrow$ Selling of bonds $\uparrow \rightarrow$ Supply of bonds $\uparrow \rightarrow$ Price of bonds $\downarrow \rightarrow ir \uparrow$

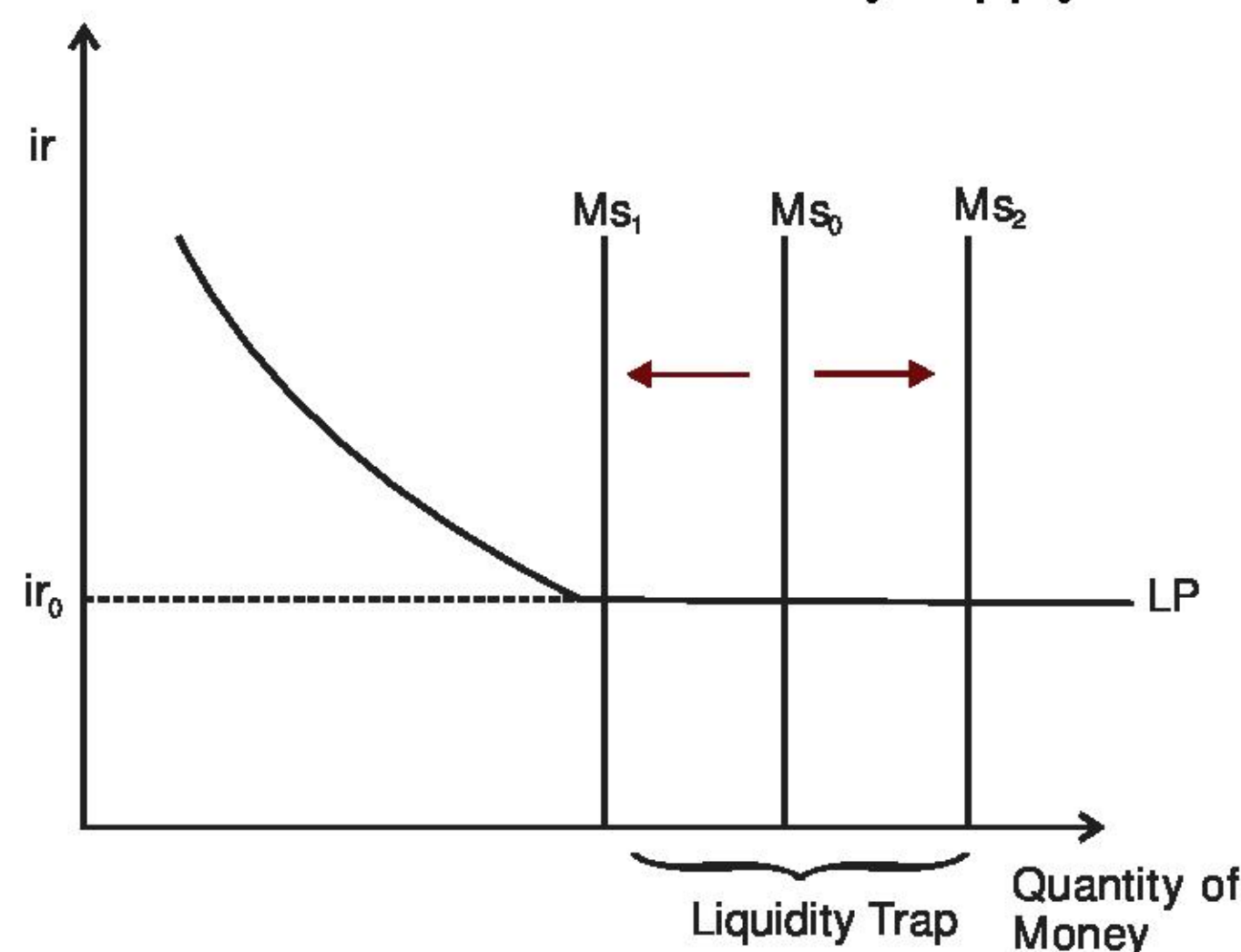
At ir_0

$M_s = LP \rightarrow$ No Shortage or Surplus of liquid assets $\rightarrow$ No change in buying or selling of bonds $\rightarrow$ No change in Price of bonds $\rightarrow$ No tendency to change in $ir \rightarrow$ equilibrium

Changes in Equilibrium Interest Rate:**1. Changes Money Supply (M_s):-****2. Changes in Demand for Money:**

3. Changes in Both Demand and Supply of Money:**Liquidity Trap:**

Although it is expected that an increase in the money supply will cause the rate of interest to fall, Keynes described a situation where it would not be possible to drive down the rate of interest by increasing the money supply. He described this situation as the liquidity trap. He thought it could occur when the rate of interest is very low and the price of bonds is very high. In this case, he thought that speculators would expect the price of bonds to fall in the future, so if the money supply was to be increased they would hold all the extra money. They would not buy bonds for fear of making a capital loss and because the return from holding such securities would be low. Figure below shows that at a rate of interest ir_0 , demand for money becomes perfectly elastic and the increase in the money supply has no effect on the rate of interest.

**Limitations of LP-Theory**

1. Assumption LP-theory that countries hold all their wealth in either money or in bonds is not true.
2. Not applicable in LDC's (less developed countries) financial institutions are not well-established.
3. Don't describe how people make their expectations.
4. It assumes that money supply is fixed. It is true only in short-run. In the long-run, money supply does change.
5. There are many types of interest rates that are charged at the same time. e.g. Interest on mortgages, overdraft, bonds and bills are different. LP gives no explanation of interest rate differentials.
6. LP theory assumes that transactions and precautionary motives are completely interest-inelastic. But in real world, they might respond to the changes in interest rate when these changes are considerably high.

Mtd and Mpd $\uparrow\uparrow$ when $ir \downarrow\downarrow\downarrow\downarrow\downarrow\downarrow\downarrow\downarrow$
Mtd and Mpd $\downarrow\downarrow$ when $ir \uparrow\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow$

Past Papers Questions**Topic: Liquidity Preference Theory****1. O/N 18/P41/Q6/a**

Examine the effects on the demand for money in an economy, when the money supply is increasing and more individuals are using credit and debit cards instead of cash to purchase goods and services. [12]

2. M/J 18/P41/Q6/a

Consider the extent to which the commercial banks can influence the money supply. [12]

3. March 18/P42/Q5/a

Distinguish between the transactions demand for money and the speculative demand for money. Consider which is likely to be more important for a consumer in a modern economy. [12]

4. March 18/P42/Q5/b

Some economists argue that large budget deficits will increase the demand for money while others argue that large budget deficits will decrease the demand for money.

Discuss whether it is possible to reconcile these views. [13]

5. M/J 17/P42/Q4/a

Explain why people demand money according to the liquidity preference theory. [12]

6. M/J 17/P41/Q3/a

Explain the reasons why people demand money according to the liquidity preference theory. Consider which reason is the most important. [12]

7. O/N 16/P43/Q6/a

'National income is the only determinant of the demand for money.'

Do you agree with this statement? [12]

8. O/N 16/P43/Q6/b

Assess how alternative macroeconomic policies might affect the demand for money. [13]

9. O/N 16/P41/Q6/b

Governments are sometimes concerned with microeconomic issues, for example, planning applications for large projects such as airports which have environmental implications.

Discuss how a government's decision on a microeconomic issue might have macroeconomic implications. [13]

10. O/N 15/P42/Q4/a

Explain the motives for the demand for money according to the Keynesian liquidity preference theory. [12]

11. O/N 15/P42/Q4/b

A worker is a weekly paid shop assistant. She is then promoted to a manager in a larger store on a higher monthly salary. At the same time interest rates fall.

Discuss how these changes would affect the worker's demand for money. [13]

12. O/N 15/P41/Q5/b

Analyse whether there is a link between the reasons given by the liquidity preference theory as to why people demand money and the rate of interest. [13]

13. O/N 14/P43/Q6/a

It is suggested that the use of credit cards has resulted in huge debts as people spend far more than they earn.

(a) Explain whether the liquidity preference theory of the demand for money can be applied to the use of credit cards. [12]

14. O/N 14/P43/Q6/b

Use the liquidity preference theory to discuss the possible consequences of an increase in the supply of money. [13]

15. O/N 14/P42/Q6/a

Use liquidity preference theory to explain why there is a demand for money. [12]

16. M/J 14/P43/Q6/a, M/J 14/P41/Q6/a

In a time of recession some people fear that their continued employment is uncertain. Explain how, according to liquidity preference theory, this might affect their demand for money. [12]

17. O/N 13/P41/Q6/b

In 2011, a government announced that it would reduce the number of people employed in the public sector and that pensions would be paid at age 65 rather than age 60.

Discuss how, according to the liquidity preference theory, a person's demand for money might be affected by the above announcement. [13]

18. M/J 13/P41/Q6/b

Discuss, with reference to liquidity preference theory, whether interest rates are the main determinant of consumers' demand for money. [13]

19. O/N 12/P42/Q7/a

For what purposes do people demand money? [10]

20. O/N 11/P43/Q6/a

Explain the three reasons, according to the liquidity preference theory, why people demand money. [12]

21. O/N 11/P43/Q6/b

Use the liquidity preference theory to discuss the possible consequences of an increase in the supply of money. [15]

22. O/N 11/P42/Q6/a

For what purposes do people demand money? [12]

23. O/N 11/P42/Q6/b

Assess, using the concept of liquidity preference, the possible links between an increase in the supply of money, the rate of interest and investment. [13]

24. M/J 10/42/Q6/b

Explain what is meant by liquidity preference and discuss how it might be affected by an increase in unemployment. [13]

25. O/N 09/P42/Q4/a

Explain what is meant by the transactions, precautionary and speculative demands for money. [10]

26. O/N 09/P42/Q4b

An employee moves to another job because it pays more. However, the old job was paid weekly and the new job is paid monthly. At the same time interest rates are increased. Discuss how these changes would affect the employee's transactions, precautionary and speculative demands for money. [15]

27. M/J 08/P4/Q7/a

For what purposes do people demand money? [10]

28. O/N 06/P4/Q6/a

Explain what determines the demand for money. [10]

UNIT 5

Macroeconomic Policies

A2 Level
Macroeconomics
Notes Book 4

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Syllabus 2019 – 21

- a. **Monetary policy**
 - transmission mechanism of monetary policy
 - Quantity theory of money ($MV = PT$)
 - deficit financing
- b. **Limitations of macroeconomic policies**
 - existence of government failure in macroeconomic policies
 - Laffer curve analysis



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Unit 5 Macroeconomic Policies

Macroeconomic Stabilization Policies

Any policy that attempts to stabilize national income at or near any desired (usually potential national income) is called a stabilization policy.

- When economy is moving towards boom, the government opts contractionary policies to bring the economy back to Target/Potential GDP.
- When economy moves towards Slump, Government chooses expansionary policies to prevent deep recession.
- As there is no economy which is static, therefore government keeps on alternating expansionary and contractionary policies in order to keep the economy near to potential GDP. Fine tuning/Stabilization are the prime concert of all macroeconomic policies.

Government Economic Aims:

Microeconomic Aims	Macroeconomic Aims
• Provision of merit goods • Provision of public goods. • Control of monopolies • Encouraging Competition • Competition factor markets • Minimization of external costs • Equity and Efficiency. • etc.	• Price Stability • Balance of payments • exchange rate • Full employment • Sustained Economic growth • economic development • Income equalities

Monetary policy:

Definition:

It is a government policy to achieve its objectives by controlling money supply in the economy.

Tools of Monetary Policy (Instruments)	Types of Monetary Policy
1. Open Market Operations 2. Liquidity Ratio 3. Discount Rate 4. Special Deposits 5. Qualitative Measures 6. Deficit financing	1. Expansionary monetary policy 2. Contractionary monetary policy

Monetary Transmission Mechanism (MTM)

A mechanism by which changes in money supply are transmitted to price level, GDP and employment is known as MTM.

- Monetary transmission through quantity theory of money
- Direct monetary transmission
- Indirect monetary transmission.

1. QUANTITY THEORY OF MONEY (QTM)

According to Irving Fischer's equation

$$MV = PT$$

M = Money Supply

V = Income Velocity of Circulation (no of times money changes hands in one year)

T = Q = Y → Real output → Real GDP

As we know that:

$$\text{Nominal GDP} = \Sigma PQ = PQ = PY = PT$$

Hence:

$$V = \frac{PT}{M} = \frac{\text{Nominal GDP}}{\text{Money Stock}}$$

Both sides of the equation have to equal each other since both sides represent total expenditure in the economy.

To turn the equation into a theory, monetarists assume that V and Y or T are constant, not being affected by changes in the money supply, so that a change in the money supply causes an equal percentage change in the price level. If 'V' and 'T' held constant;

$$M = P \left(\frac{T}{V} \right)$$

$$M = \text{Constant} \times P \rightarrow M \propto P \rightarrow M \uparrow \rightarrow P \uparrow$$

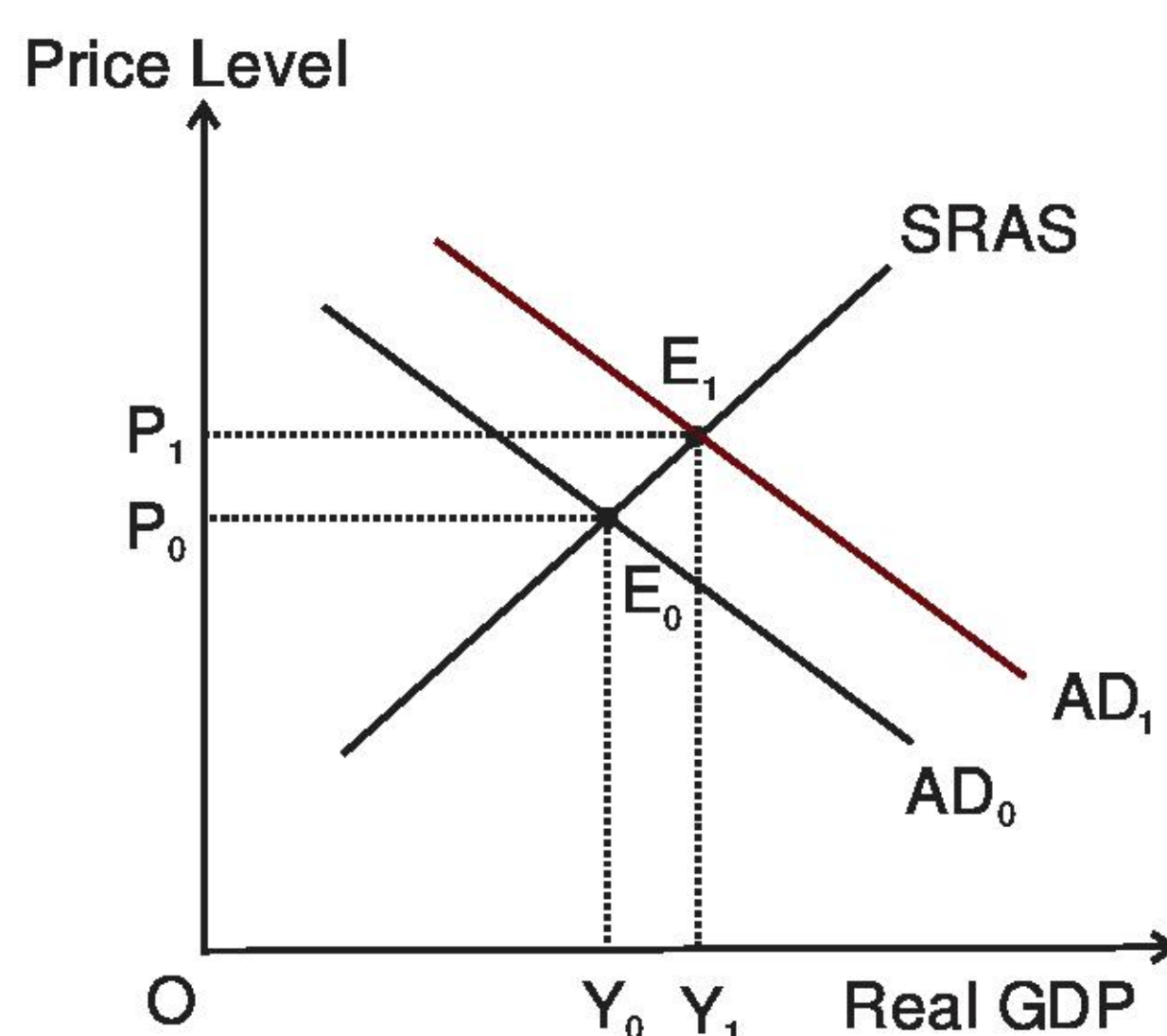
EXAMPLE

	Initially	Later On
M	1000	2000
T	25	25
V	5	5
P $= \frac{MV}{T}$	$\frac{1000 \times 5}{25} = 200$	$\frac{2000 \times 5}{25} = 400$

The monetarist view is that inflation is a monetary phenomenon. Keynesians, however, argue that the equation cannot be turned into a theory since V and Y can change with a change in the money supply and so no predictions can be made about what effect a change in M will have on P.

2. DIRECT MONETARY TRANSMISSION MECHANISM

Money supply ↑ → more cash in the hands of public → spending ↑ → AD ↑ → Price level ↑ → GDP ↑ → Unemployment (cyclical) ↓



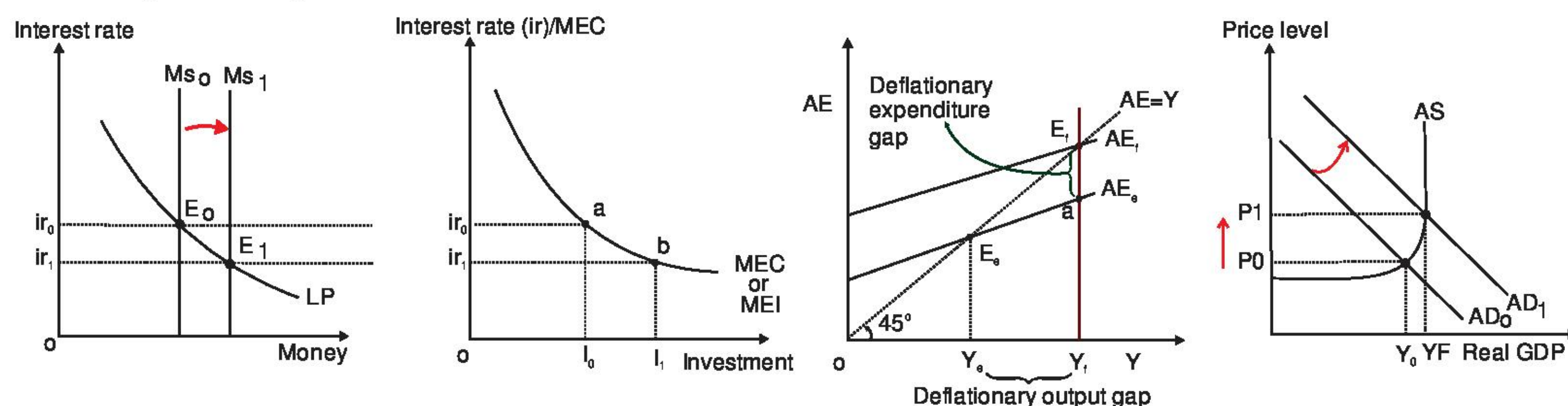
3. INDIRECT MONETARY TRANSMISSION MECHANISM

Changes in money supply will first influence interest rate which will be transmitted to the economy indirectly.

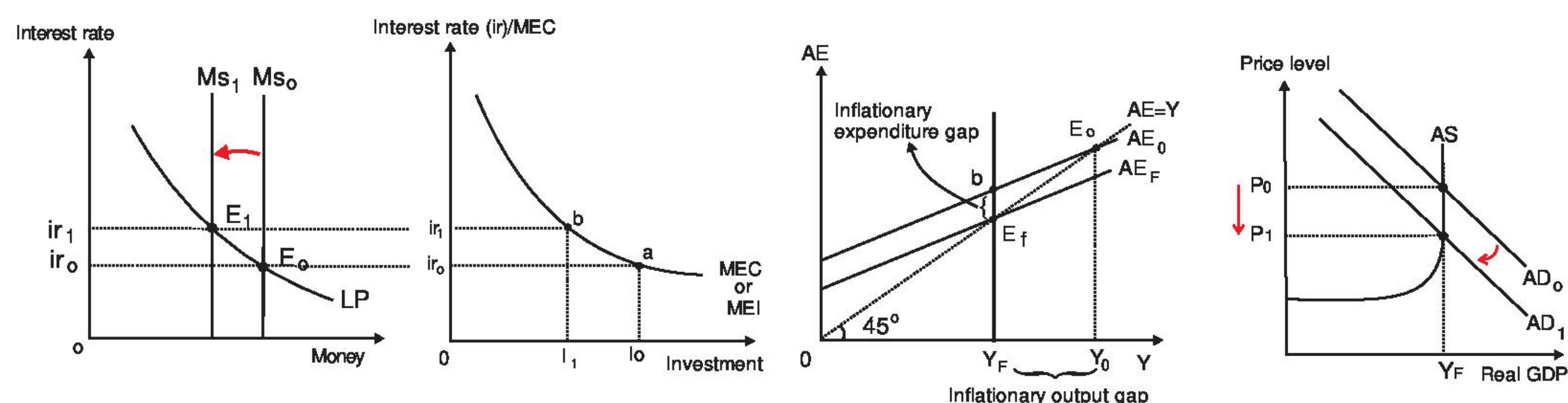
a. Expansionary Monetary Policy:

Expansionary monetary policy is designed to eliminate the deflationary gap and unemployment in the economy. Central bank increases money supply by buying bonds and securities in the open market, lowering discount rates, releasing special deposits, reducing liquidity ratio (LR) and loosening qualitative measures. These actions will lead to the surplus in money market pushing interest rate down. Low interest rate will attract new investments and consumption through increased borrowing. Injection of new investment and consumption will have a multiple effect on national income and employment by shifting AD curve to the right at full-employment level low interest rate will also cause the hot-money flows out of the country resulting in depreciation of domestic currency.

Consequently exports will become cheaper and imports will be expensive. Increase in net exports will have further expansionary effect on National Income.



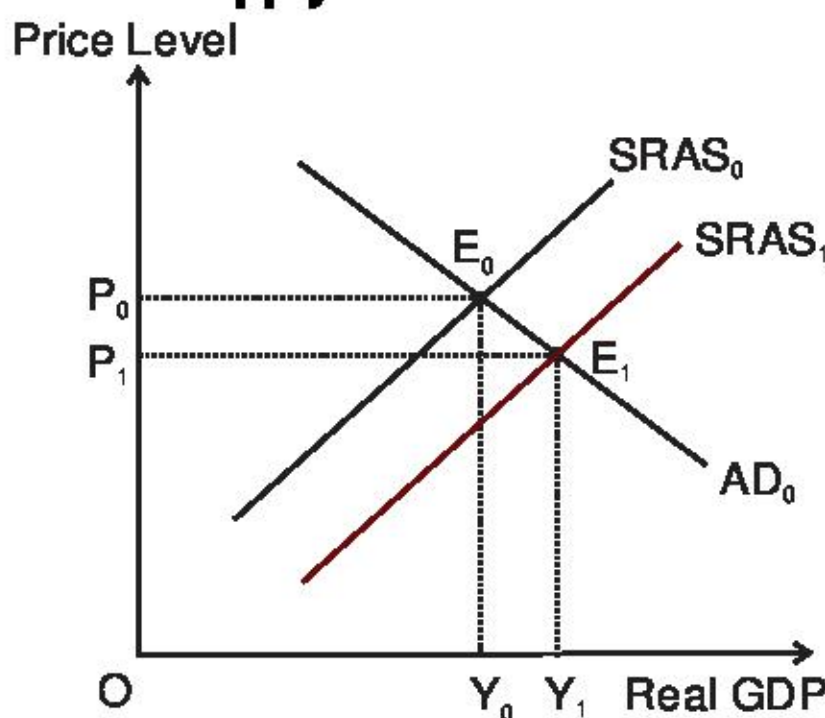
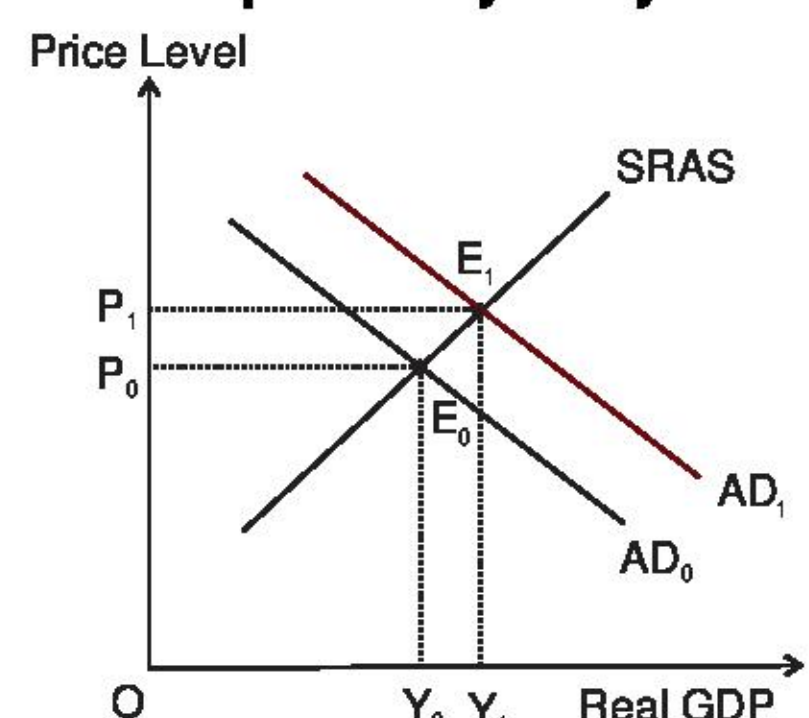
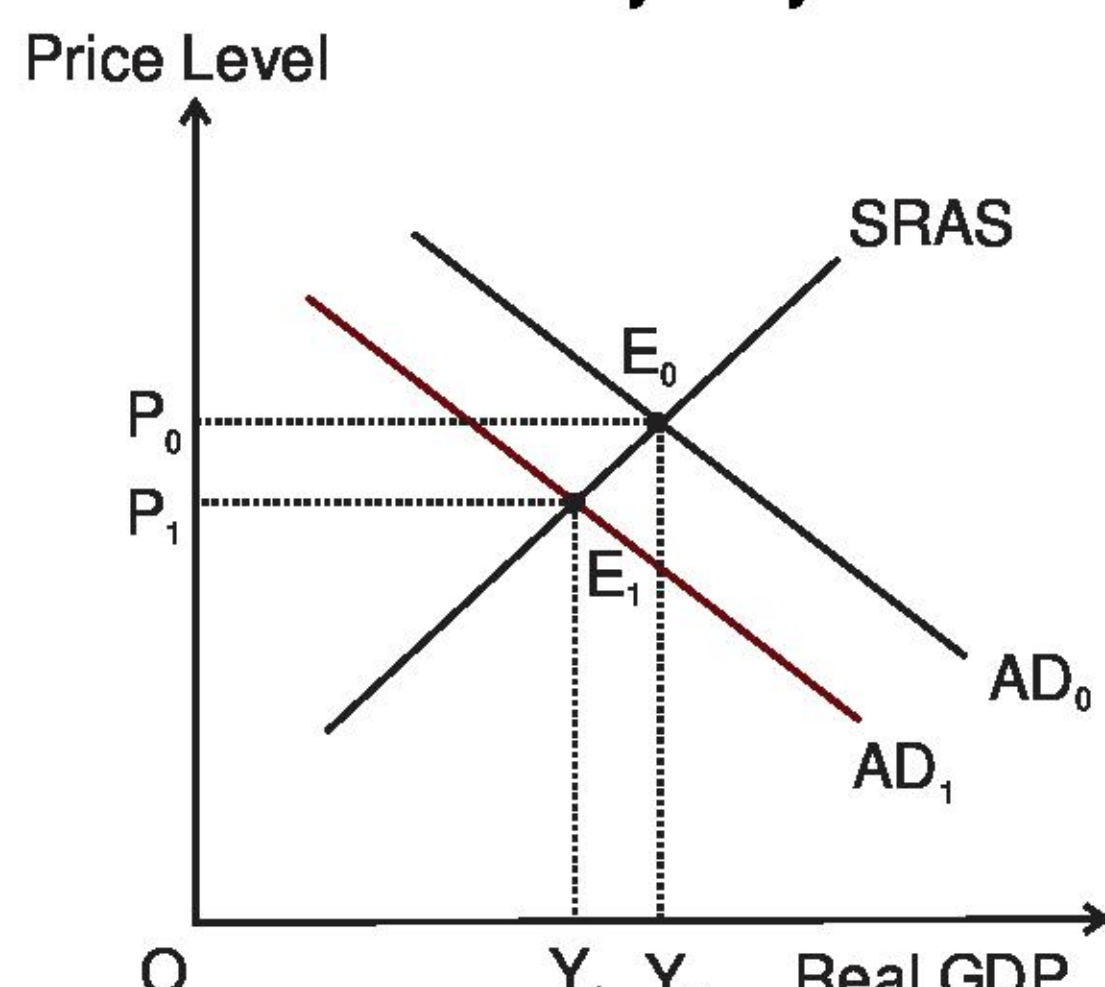
Changes In Ms	Effect On ir	Effect On AE	Effect On Economy
To $\uparrow$ Ms : - Bonds Redeem - LR $\downarrow$ - Special Release - MLR $\downarrow$ - Qualitative Measures Easy	- $Ms > LP \rightarrow$ Surplus of liquid assets - Buying of bonds $\uparrow$ - Demand for Bonds $\uparrow$ - Price Of Bonds $\uparrow$ - Interest Rate(ir) $\downarrow$	- $C \uparrow$ - $MEC > ir \rightarrow I \uparrow$ - $C \uparrow \rightarrow \text{Accelerator} \rightarrow I \uparrow$ - if Domestic interest rate < interest rate Abroad $\rightarrow$ capital inflow $\downarrow$ and outflow $\uparrow \rightarrow$ Balance Of Capital and Financial Account $\downarrow \rightarrow D_{Rs} \downarrow$ and $S_{Rs} \uparrow \rightarrow$ Exch. Rate $\downarrow$ if Free Float Exch. Rate System $\rightarrow P_x \downarrow \rightarrow Q_x \uparrow \uparrow \uparrow \rightarrow P_x Q_x \uparrow$ and $P_M \uparrow \rightarrow Q_M \downarrow \downarrow \downarrow \rightarrow P_M Q_M \uparrow$ if $PED_x + PED_M > 1$ (Marshall-Lerner Condition and J-curve Effect) $\rightarrow (X-M) \uparrow \rightarrow$ Balance Of Current Account $\uparrow$ - **** An increase in Domestic inflation may make exports expensive and imports relatively cheaper and therefore may worsen current account balance.	- $C \uparrow + I \uparrow + (X-M) \uparrow \rightarrow AE \uparrow \rightarrow AD \uparrow$ - $Y \uparrow$ (Multiplier) - (Demand-Pull Inflation) $\uparrow$ - Economic Growth $\uparrow$ - Unemployment (cyclical) $\downarrow$ - Balance Of Payments $\rightarrow$ uncertain

b. Contractionary Monetary Policy:

Changes In Ms	Effect On ir	Effect On AE	Effect On Economy
To ↓ Ms : - Bonds Redeem - LR ↑ - Special Release - MLR ↑ - Qualitative Measures Easy	- $Ms > LP \rightarrow$ Shortage of liquid assets - Selling of bonds - Supply Of Bonds ↑ - Price Of Bonds ↓ - Interest Rate(ir) ↑	- C↓ - $MEC < ir \rightarrow I \downarrow$ - $C \downarrow \rightarrow \text{Accelerator} \rightarrow I \downarrow$ - if Domestic interest rate > interest rate Abroad $\rightarrow$ capital inflow ↑ and outflow ↓ $\rightarrow$ Balance Of Capital and Financial Account ↑ $\rightarrow D_{Rs} \uparrow$ and $S_{Rs} \downarrow \rightarrow$ Exch. Rate ↑ if Free Float Exch. Rate System $\rightarrow P_x \uparrow \rightarrow Q_x \downarrow \downarrow \rightarrow P_x Q_x \downarrow$ and $P_M \downarrow \rightarrow Q_M \uparrow \uparrow \rightarrow P_M Q_M \downarrow$ if $PED_x + PED_M > 1$ (Marshall-Lerner Condition and J-curve Effect) $\rightarrow (X-M) \downarrow \rightarrow$ Balance Of Current Account ↓	- $C \downarrow + I \downarrow + (X-M) \downarrow \rightarrow AE \downarrow \rightarrow AD \downarrow$ - $Y \downarrow$ (Multiplier) - (Demand-Pull Inflation) ↓ - Economic Growth ↓ - Unemployment (cyclical) ↑ - Balance Of Payments uncertain

Contractionary monetary policy is used to control the level of inflation in the economy. Government limits money supply by selling bonds and securities in the open market, raising the liquidity ratio (LR), increasing discount rate and calling special deposits from commercial banks. Government also uses strict qualitative measures to restrict the lending ability of retail banks. Reduced money supply causes shortage in money market and raises interest rate. High interest rate will depress the level of investment and consumption in the economy, which will have multiple effect on National income. Reduced AD will definitely remove the inflationary gap and full-employment will be restored.

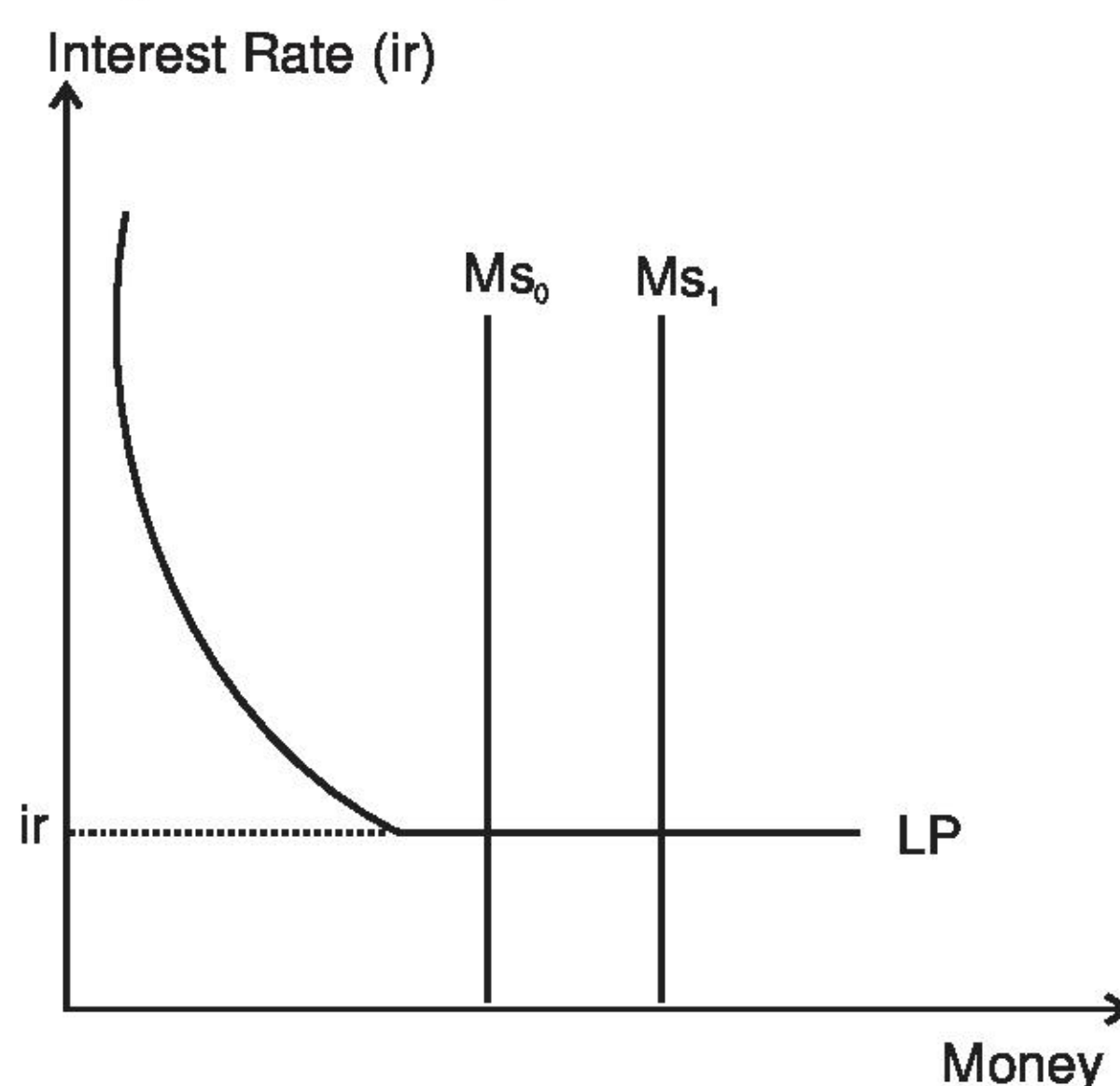
Increased interest rate will attract hot money inflow causes capital account surplus. Increased hot money inflows will push domestic exchange rate up and appreciation of currency. Imports will be cheaper and exports will become expensive. Balance of current account will worsen. Effect on balance of payments will be uncertain.

Comparison Of Macroeconomic Policies						
Supply-Side Policies	Demand-Side Policies					
i.Education↑ ii.Training↑ iii.Technology↑ iv.Infrastructure↑ v.Indirect Tax↓ vi.Subsidies↑ vii.Competition↑ viii.Trade unions↓ ix.Privatisation↑	Fiscal Policy		Monetary Policy		Exchange Rate Policy	
	About Government Spending (G) and Taxes (T)		About Government Spending (G) and Taxes (T)		About Government Spending (G) and Taxes (T)	
	Expansionary Fiscal policy	Contractionary Fiscal policy	Expansionary Monetary Policy	Contractionary Monetary Policy	Devaluation	Revaluation
	$G \uparrow \rightarrow AD \uparrow$ $T \downarrow \rightarrow Y_d \uparrow \rightarrow C \uparrow \rightarrow AD \uparrow$ $\rightarrow \text{Profits} \uparrow \rightarrow I \uparrow \rightarrow AD \uparrow$	$G \downarrow \rightarrow AD \downarrow$ $T \uparrow \rightarrow Y_d \downarrow \rightarrow C \downarrow \rightarrow AD \downarrow$ $\rightarrow \text{Profits} \downarrow \rightarrow I \downarrow \rightarrow AD \downarrow$	$M_s \uparrow \rightarrow C \uparrow \rightarrow AD \uparrow$ $ir \downarrow \rightarrow C \uparrow, I \uparrow \rightarrow AD \uparrow$	$M_s \downarrow \rightarrow C \downarrow \rightarrow AD \downarrow$ $ir \uparrow \rightarrow C \downarrow, I \downarrow \rightarrow AD \downarrow$	$P_x \downarrow \rightarrow X \uparrow$ $P_M \uparrow \rightarrow M \downarrow$ $(X-M) \uparrow \rightarrow AD \uparrow$	$P_x \uparrow \rightarrow X \downarrow$ $P_M \downarrow \rightarrow M \uparrow$ $(X-M) \downarrow \rightarrow AD \downarrow$
Advantages/Aims: i. GDP ↑ ii.Economic Growth ↑ iii.Unemployment ↓ iv.Cost-pulsh inflation↓ v.Imports↓→BOT↑ Disadvantages/Conflict s: →No conflict of aims but only applicable in long-run	Advantages/Aims: i. GDP ↑ ii.Economic Growth ↑ iii.Unemployment ↓ Disadvantages/Conflict s: i.Demand-pull inflation↑ ii.Imports↑→BOT↓	Advantages/Aims: i.Demand-pull inflation↓ ii.Imports↓→BOT↑ Disadvantages/Conflict s: i. GDP ↓ ii.Economic Growth ↓ iii.Unemployment ↑	Advantages/Aims: i. GDP ↑ ii.Economic Growth ↑ iii.Unemployment ↓ Disadvantages/Conflict s: i.Demand-pull inflation↑ ii.Imports↑→BOT Uncertain	Advantages/Aims: i.Demand-pull inflation↓ ii.Imports↓→BOT Uncertain Disadvantages/Conflict s: i. GDP ↓ ii. Economic Growth ↓ iii. Unemployment ↑	Advantages/Aims: i. BOT↑ ii. GDP ↑ iii.Economic Growth ↑ iv.Unemployment ↓ Disadvantages/Conflict s: i.Demand-pull inflation↑	Advantages/Aims: i.Demand-pull inflation↓ Disadvantages/Co nflicts: i. BOT↓ ii. GDP ↓ iii.Economic Growth ↓ iv.Unemployment ↑
Supply-Side Policies 	Expansionary Policy 		Contractionary Policy 			

Government failure on macroeconomic policy

Limitations of Monetary Policy:

1. If the commercial banks have **excess reserves**, then commercial banks will not depend on central banks and 'Discount Rate' tool will be ineffective:
2. **Business Expectations:**
If the economy is in Boom, and businesses are expecting high profits, increased interest rate will have a little impact over the demand. Similarly, in Recession, when Business are too much pessimistic, lower interest rate could not work because you can lead the horse to water but you can't make it drink.
3. Economy might be trapped in **Liquidity Trap** where increased money supply will lead to unchanged interest rate and in turn no change in AD and price level.



4. If money market is not properly organized, (which is the case in LDCS open market operations tool will not be effective.
5. **Time Lags:**
Although monetary policy is quicker than fiscal policy but still time lags are induced. Changes in money supply don't affect the real Economy instantaneously. It might be slow in first quarter, fast in second and fastest after an year. These time lags limit the ability of monetary policy to prevent the sudden rises in inflation or sudden falls in GDP.
6. **Uncertainty:**
Policy makers are not aware of sudden, unseen events—e.g., the oil price shocks in 1970's and most recently Sept 11 and America-Iraq war in economy can be blown off course by an external event like mentioned above.
7. **Lack of Reliable Data:**
Economic data is imperfect. This problem of imperfect is worsen in LDC's. In DC's even, Services sector is hard to monitor and record. Policy makers might not be able to make an appropriate decision if they base on the available imperfect data.
8. High interest rate encourages inflows of money from abroad. This drives up **exchange rate**, and appreciation of currency. High exchange rates make exports expensive and imports cheaper leading to balance of current account deficit.
9. **Changes in Velocity of circulation:**
According QTM (Quantity Theory of Money):
$$MV = PT$$

If 'V' and T are constant then $M \propto P$ but in reality when central bank reduces money supply in inflation, velocity of circulation may rise offsetting the money supply effect. Similarly, in reaction, when Central Bank takes the measure to increase money supply, velocity of circulation may fall.

10. Changes in Interest Elasticity of Investment:

According to the monetarist view, investment is interest Elastic and that's why monetary policy will have a strong multiplier effect on income employment and prices.

But the Keynesian school of thought believes in interest inelasticity of investment leading to a small change in real variables.

Limitations of fiscal policy:

Economists recognize that government may encounter a number of significant problems in enacting and applying fiscal policy.

1. Time Lags:

Several problems of timing may rise in connection with fiscal policy:

- The **recognition lag** is the time between the beginning of recession or inflation and the certain awareness that it is actually happening. This lag arises because of the difficulty in predicting the future course of economic activity. Although forecasting tools such as the index of leading indicators provide clues to the direction of the economy, the economy may be 4 or 6 months into a recession or inflation before that fact appears in relevant statistics and is acknowledged. Meanwhile, the economic downslide or the inflation may become more serious than it would have if the situation had been identified and acted on sooner.
- The wheels of democratic government turn slowly. There will typically be a significant lag between the time the need for fiscal action is recognized and the time action is taken which is known as **Administrative lag**.
- A lag also occurs between the time fiscal action is taken and the time that action affects output, employment, or the price level and it is known as **operational lag**. Although, changes in tax rates can be put into effect relatively quickly, government spending on public works – new dams, highways, and so on – requires long planning periods and even longer periods of construction. Such spending is not of much use in offsetting short (for example, 6- to 12-month) periods of recession. Consequently, discretionary fiscal policy has increasingly relied on tax changes rather than on changes in government spending as its main tool.

2. Political Consideration:

- Fiscal policy is conducted in a political arena. That reality not only may slow the enactment of fiscal policy but also may create the potential for political considerations swamping economic considerations in its formulation. It is a human trait to rationalize actions and policies that are in one's self-interest. Politicians are very human – they want to get reelected. A strong economy at election time will certainly help them. So they may favor large tax cuts under the guise of expansionary fiscal policy even though that policy is economically inappropriate. Similarly, they may rationalize increased government spending on popular items such as farm subsidies, healthcare and education.

At the extreme, elected officials and political parties might collectively "hijack" fiscal policy for political purposes, cause inappropriate changes in aggregate demand, and thereby cause (rather than avert) economic fluctuations. They may stimulate the economy using expansionary fiscal policy before elections and use contractionary fiscal policy to dampen excessive aggregate demand after the election. In short, elected officials may cause so-called political business cycles. Such scenarios are difficult to document and prove, but there is little doubt that political considerations weigh heavily in the formulation of fiscal policy. The question is how often, if ever, those political considerations run counter to "Sound economics".

3. Future Policy Reversals:

- Fiscal policy may fail to achieve its intended objectives if households expect future reversals of policy. Consider a tax cut, for example. If taxpayers believe the tax reduction is temporary, they may save a large portion of their tax saving, reasoning that rates will return to their previous level in the future. At that time, they can draw on this extra saving to maintain their consumption than. So a tax reduction thought to be temporary may not increase present consumption spending and aggregate demand by as much as our simple model suggests.

The opposite may be true for a tax increase. If tax payers think it is temporary, they may reduce their saving to pay the tax while maintaining their present consumption. They may reason that they can restore their saving when the tax rate again falls. So the tax increase may not much as the policymakers desired.

To the extent that this so-called consumption smoothing occurs over time, fiscal policy will lose some of its strength. The lesson is that tax-rate changes that households view as permanent are more likely to alter consumption and aggregate demand than tax changes they view as temporary.

4. Crowding-Out Effect:

- Another potential flaw of fiscal policy is the so-called crowding-out effect: An expansionary fiscal policy (deficit spending) may increase the interest rate and reduce private spending, thereby weakening or canceling the stimulus of the expansionary policy. In this view, fiscal policy may be largely or totally ineffective!

Suppose the economy is in recession and government enacts a discretionary fiscal policy in the form of increased government spending. Also suppose that the monetary authorities hold the supply of money constant. To finance its budget deficit, the government borrows funds in the money market. The resulting increase in the demand for money raises the price paid for borrowing money: the interest rate. Because investment spending varies inversely with the interest rate, some investment will be choked off or crowded out. (Some interest-sensitive consumption spending such as purchases of automobiles on credit may also be crowded out).

5. Reliability of Data/Information:

Decision of expansionary or contractionary fiscal policy by government authorities is based on GDP, RPI and other data. In many cases, this data might be distorted, incomplete, or outdated. Therefore, fiscal policy based on such unreliable data can never be expected a right policy for present macroeconomics problems.

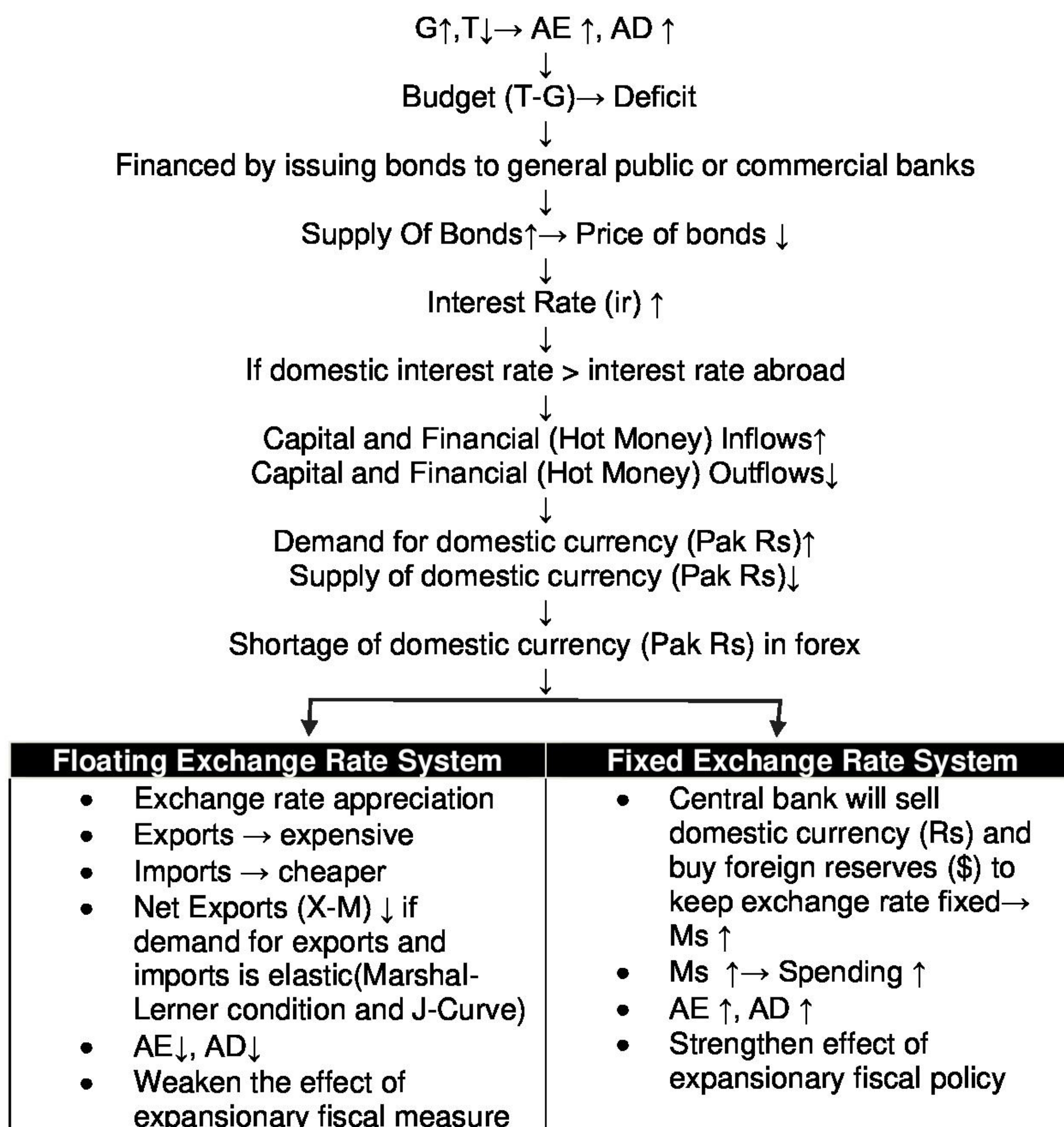
6. Globalization:

Additional complications arise from the fact that each national economy is a component of the world economy.

Events and policies abroad that affect a nation's net exports also affect its own economy. National economies are vulnerable to unforeseen international aggregate demand shocks that can alter domestic GDP and make current domestic fiscal policy inappropriate.

7. Exchange rate Effect.

The net export effect may also work through international trade to reduce the effectiveness of fiscal policy. For example an expansionary fiscal policy will have following consequences to international trade:

**8. Forecasting:**

Forecasting is never accurate—there is always an element of uncertainty. No one can predict the future with certainty despite all the new economic tools and techniques.

With errors in forecasting, an inappropriate policy will be implemented. For example, if a recession is expected and the government practices deficit budget, and yet the recession turns out to be a boom, then there will be overheating of the economy causing inflation.

The accuracy of the forecast also depends on the expertise of the officials in the Department of Statistics or the Department of Trade and Industry.

9. Postponement of government projects:

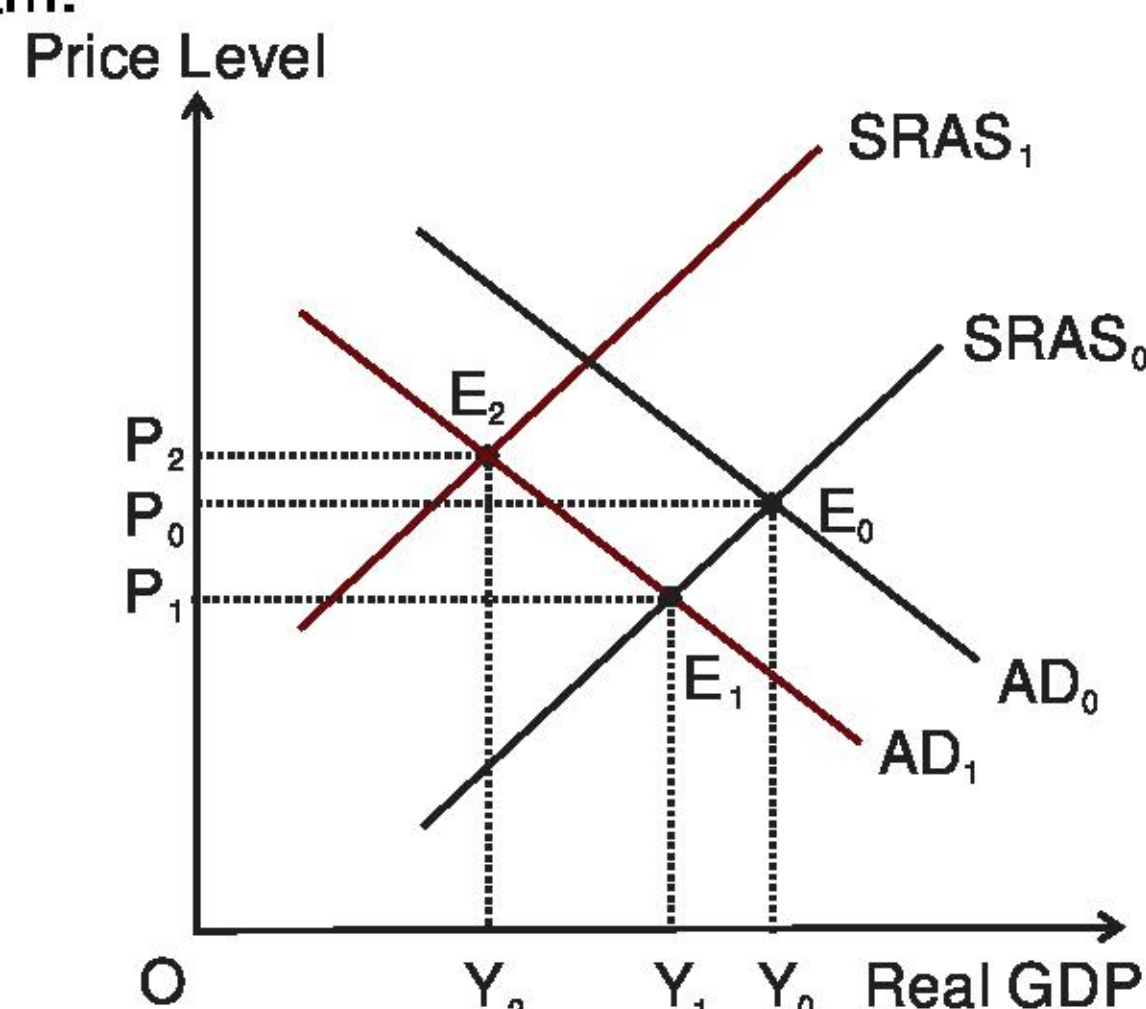
Despite unfavorable situations, certain projects cannot be postponed. This is especially so with basic infrastructure such as the building of hospitals, schools and the expressways.

The use of a fiscal policy has no bearing on these projects But these project may aggravate the economic situation of the country.

10. Aggregate Supply Argument

When government uses contractionary fiscal policy by increasing rate of tax in order to hinder growth of Aggregate spending in the economy to control demand-pull inflation, it might causes fall in aggregate supply leading to cost-push Inflation.

High direct taxes, especially income and corporation taxes, will reduce the incentive to work and enterprise leading to fall in aggregate supply.
Consider following diagram:



Though increased direct taxes will reduce AD from AD_0 to AD_1 , causing the price level to fall from P_0 to P_1 , but the disincentive effect of high taxes it shifts $SRAS_0$ to $SRAS_1$, there will be cost-push inflation shown by the move of P_1 to P_2 , making contractionary fiscal policy ineffective. In order to avoid this situation, the government must design taxes in such a way that they minimize the disincentive effect.

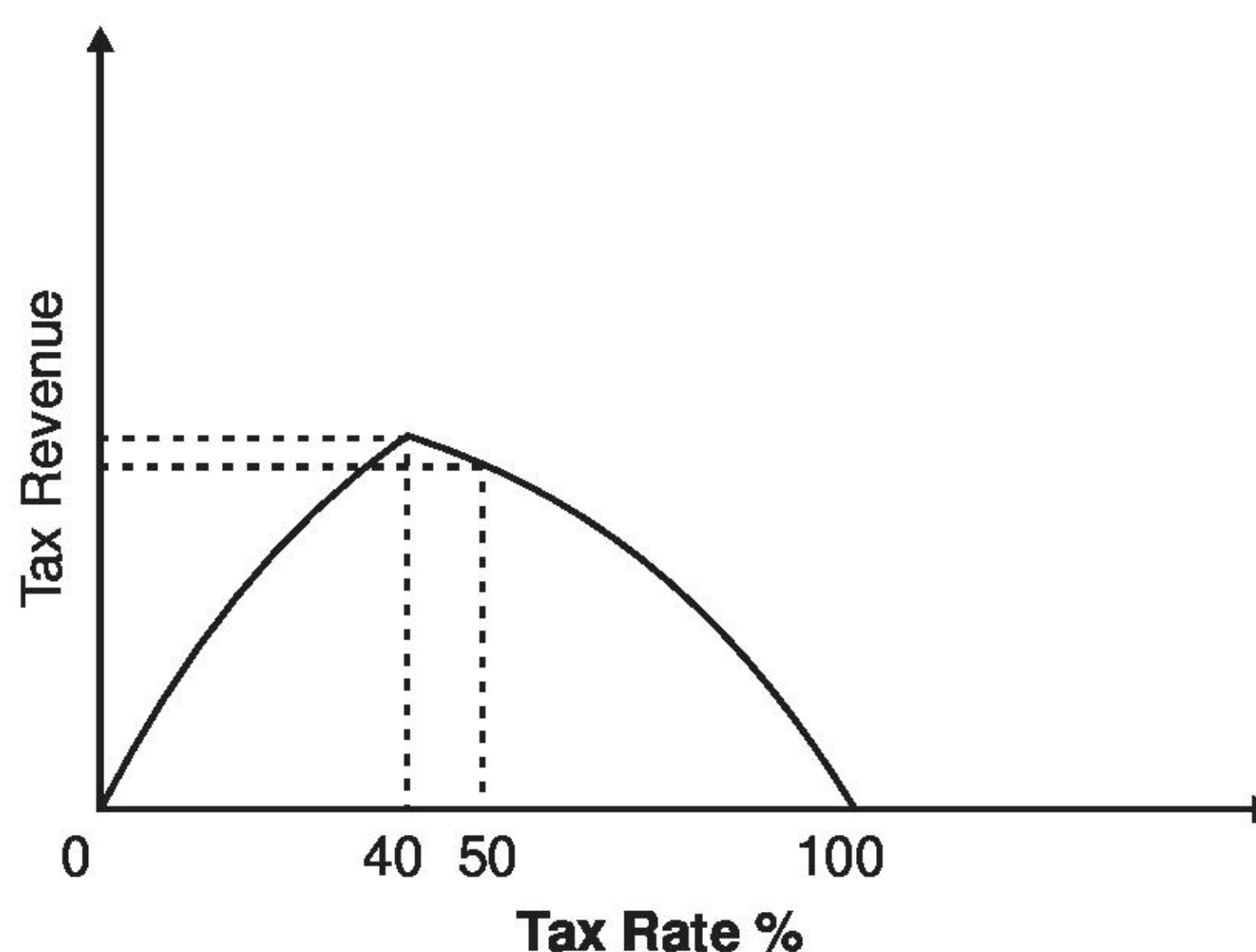
11. Corruption:

Government policy measures may also be influenced by powerful pressure groups and there is the possibility of government **corruption**.

12. **The Laffer curve:** (a curve showing tax revenue rising at first as the tax rate is increasing and then falling beyond a certain rate) may be considered to be linked to government failure. It shows that when tax rates are high, raising them further will be counterproductive.

The Laffer curve

The Laffer curve was first drawn by an American economist and advisor to President Ronald Reagan, Arthur Laffer, in the early 1970s. He drew it to support his view that a cut in tax rates may increase tax revenue by stimulating both total economic activity, because of the greater incentive effect, and declared economic activity. Figure below shows the Laffer curve.



At a tax rate of 0% there will obviously be no tax revenue. There will also be no tax revenue at a rate of 100% as workers will not be prepared to work if all their income goes in tax. The curve suggests there is a tax rate that will generate the most tax revenue. Raising the tax rate beyond this point would reduce tax

revenue as it will discourage work and encourage tax evasion. Figure above indicates that a cut in the tax rate from 50% to 40% would increase tax revenue.

Limitations of Laffer curve:

- It is debatable what the shape of the 'curve' actually is. It may be linear over part of its length and any shape is likely to vary over time and between countries.
- Empirical evidence also suggests that belief in the Laffer curve can result in government failure. For example, soon after it was shown to Ronald Reagan, the American government introduced tax cuts that actually reduced tax revenue

Conclusion:

Usually, a fiscal policy together with monetary and supply side policies are implemented to achieve macroeconomic goals

Past Papers Questions

Topic: Fiscal, Monetary & Supply-Side Policies

1. M/J 19/P42/Q6

- (a) The US Federal Reserve (the country's central bank) has pursued a policy of quantitative easing (QE) for several years.
Explain how quantitative easing affects the level of economic activity in a country. [12]
- (b) Discuss how far (i) an increase in wages and (ii) a loss of business confidence might affect the rate of interest. [13]

2. M/J 19/P42/Q5

Cyclical and structural unemployment are the most common types of unemployment.
Explain the causes of these types of unemployment and assess the effectiveness of government policies to reduce them. [25]

3. M/J 19/P41/Q6, M/J 19/P43/Q6

'The failure of the policy of quantitative easing (QE) to solve problems associated with an economic recession illustrates the weakness of monetary transmissions mechanisms in particular and monetary policy in general.'
Critically evaluate this statement. [25]

4. Mar 19/P42/Q6/b

Critically evaluate a central bank's use of interest rates to increase injections into an economy. [13]

5. O/N 18/P42/Q6/b

Consider the effectiveness of using only monetary policy in this situation. [13]

6. O/N 18/P41/Q6/b

Quantitative easing will lead to lower interest rates and it will depreciate the value of the national currency.
This will automatically lead to high levels of inflation.
To what extent do you agree with this view? [13]

7. O/N 18/P41/Q5

Recession in some economies has caused high unemployment. At the same time high levels of national debt and substantial budget deficits have been experienced.
This means that governments can no longer use Keynesian demand management policies to solve the problem of unemployment.
To what extent do you agree with this conclusion? [25]

8. O/N 18/P43/Q6/a

'Central banks can control interest rates but they cannot control the money supply. Commercial banks can control the money supply but they cannot control interest rates.'
To what extent would you agree with this statement? [12]

9. O/N 18/P43/Q6/b

'Monetary policy alone is unlikely to have any significant effect on real variables such as the level of output but it is the only effective way to control inflation'.
Critically evaluate this view. [13]

10. O/N 18/P43/Q5/b

Some economists argue that government intervention is the best way to reduce the natural rate of unemployment while others suggest that it would be better to allow market forces to reduce this type of unemployment.
Compare both approaches and assess which is likely to be the more effective. [13]

11. M/J 18/P42/Q6/b

Examine the view that 'recession can only be solved by monetary policy'. [13]

12. M/J 18/P41/Q6/b

'Quantitative easing has a limited effect on employment in the short run and is likely to cause inflation in the long run.'
Discuss whether there is any truth in this statement. [13]

13. M/J 18/P41/Q5/b

Assess the view that supply-side policies are the most effective way to solve the problem of structural unemployment. [13]

14. M/J 18/P43/Q6/a

Explain the quantity theory of money. Consider its relevance to economic policies that might be used to control inflation. [12]

15. M/J 18/P43/Q5/b

How far would you agree that the use of budget deficits is the most effective way to solve the problem of a deflationary gap? [13]

16. O/N 17/P41/Q7/a

What differences are there, if any, between fiscal policies, monetary policies and supply side policies? [12]

17. O/N 17/P41/Q7/b

A Finance Minister wishes to reduce inequalities of income and wealth in the country. Discuss whether fiscal, monetary or supply side policies would be most likely to achieve this aim. [13]

18. M/J 17/P43/Q7/b

Distinguish between monetary policy and fiscal policy. Discuss whether fiscal policy may be used to influence the standard of living in a country. [13]

19. M/J 17/P42/Q5

Economic models have little practical relevance.

Discuss whether this is true of the analysis of how a fall in interest rates might affect an economy's GDP. [25]

20. M/J 17/P41/Q6/b

Governments have a range of macroeconomic aims apart from economic growth.

Discuss whether there is always a consistent link between investment and economic growth. [13]

21. M/J 17/P41/Q3/b

In 2015, after a period of low inflation and low interest rates a commentator wrote, 'If inflation suddenly increases it could result in a faster than expected rise in interest rates. The consumer spending boom will end.' (Source: London Evening Standard, 26 January 2015)

Discuss the possible reasons behind this suggested result. [13]

22. M/J 16/P43/Q6

Equilibrium is a key concept in the study of economics. Explain what an equilibrium level of national income means and discuss the relative merits of policies a government might use to cause the equilibrium level to change in an open economy. [25]

23. Specimen Paper 2016/P4/Q4/b

The combination of rapid economic growth and inflation is no coincidence.

(Source: *The Times*)

Assess what policies might be used by a government to control inflation without harming economic growth [13]

24. O/N 15/P43/Q6/a

In a number of countries interest rates have remained low for a long time. Some people have been unhappy with the low rates but others have been pleased. However, high interest rates also cause different reactions. Explain why different groups of people may differ in their reaction to the level of interest rates. [12]

25. O/N 15/P43/Q6/b

Discuss whether a low interest rate can help a government achieve its macroeconomic aims. [13]

26. O/N 15/P42/Q6

Businesses say that high interest rates are not desirable because they prevent investment.

Government ministers say that high interest rates are sometimes necessary because they encourage saving and control inflation.

Discuss these two opinions and decide whether they are always true. [25]

27. O/N 15/P41/Q5/a

Explain why the government's annual budget is an important instrument of economic policy. [12]

28. M/J 15/P43/Q5/a

Briefly explain the differences between monetary policy, fiscal policy and supply-side policy and whether they overlap in their effects. [12]

29. M/J 15/P43/Q5/b

The Finance Minister of a country said that 'Monetary policy remains the main tool for responding to changes in the economic outlook at the moment'. Source: *The Telegraph Business* section, February 2012. Discuss whether monetary policy is always the main tool for responding to changes in the economic outlook.

[13]

30. M/J 15/P42/Q5/b

'Lack of consumer spending causes recessions. Recessions do not improve a country's standard of living. It is always better, therefore, to encourage consumer spending for this improves a country's standard of living.'

Discuss what policies a government may use to try and end a recession.

[13]

31. O/N 14/P42/Q5/b

Lord Skidelsky, Keynes's biographer, stated that Keynes believed that 'to cut government spending was completely the wrong policy in a slump'. *(Source: The Times.)*

Discuss why cutting government spending might be considered to be the wrong policy in a slump. [13]

32. O/N 14/P41/Q5/b

An economist stated 'you cannot encourage economic growth, and cut spending and increase taxes at the same time'. *(Source: The Times. 2011)*

Discuss whether economic analysis can be used to support the statement of the economist. [13]

33. M/J 14/P43/Q6/b, M/J 14/P41/Q6/b

Discuss how, in a closed economy, a fall in interest rates might affect consumers and producers.

[13]

34. M/J 14/P42/Q7/a

Too much labour but not enough capital. Is this the most significant difference between a developing and a developed economy? [12]

35. M/J 14/P42/Q6/b

'When a government wishes to lower unemployment its only method of reducing it is by the use of fiscal policies'.

Do you agree with this opinion?

[13]

36. M/J 13/P41/Q6/a

Explain how a fall in interest rates might influence the level of investment and, as a result, national income.

[12]

37. O/N 12/P43/Q5/a

In **2010** a number of governments were concerned that they had large budget deficits. A group of economists recommended that the deficit should be reduced by public spending cuts rather than tax increases.

Explain what is meant by a budget deficit and why a large deficit might be a source of concern. [12]

38. O/N 12/P43/Q5/b

Discuss the similarities and differences of using spending cuts or tax increases as a means of solving budget deficits. [13]

39. O/N 12/P41/Q5/b

Discuss the effectiveness of the policies a government might use to reduce an inflationary gap. [13]

40. O/N 11/P42/Q5/a

Explain what is meant by government macroeconomic policies and government microeconomic policies. Illustrate your answer with two types of policy from each. [12]

41. O/N 11/P42/Q5/b

Consider how government economic policies might be used to help a country out of a recession. [13]

42. M/J 11/P42/Q6/b

To increase national income, interest rates should be lowered; indeed lowering interest rates is the only policy available to increase national income.

Discuss whether you support this opinion. [13]

43. O/N 10/P43/Q5/b

Discuss what measures might be recommended to try to deal with the most significant issue. [13]

44. M/J 10/P41/Q6/b

Discuss the policies that a government might use to influence the level of investment in an economy.

[13]

45. O/N 09/P42/Q7

The economy of South Africa is growing faster than its potential growth rate. The Governor of the central bank of South Africa said 'This is why we have inflation. We need to deal with inflation as it does not lead to job creation. Interest rates are the only tool available to control inflation'.

Do you agree with the Governor's opinion on inflation? [25]

46. O/N 09/P42/Q6/b

Discuss the policies that might be used to bring an economic recession to an end. [15]

47. O/N 09/P41/Q5/a

Some Japanese economists have argued that higher interest rates would, unusually, improve Japan's economic growth.

Explain why it might be said that this link between interest rates and economic growth is unusual. [12]

48. M/J 09/P4/Q5/b

In 2006 it was reported that a country's unemployment rate had remained steady and that its central bank, through its interest rate policy, had prevented an increase in inflation despite a sharp rise in oil prices.

Discuss how interest rate policy might prevent a rise in inflation. [13]

49. M/J 08/P4/Q7/b

Discuss the effect of an increase in the supply of money on interest rates and national income. [15]

50. M/J 08/P4/Q6/a

It is feared that if the government increases taxes the level of national income will fall. Explain whether this is necessarily true. [10]

51. M/J 07/P4/Q5/a

In 2004 the US Federal Budget deficit rose to a record \$412 billion.

Budget deficits are affected by fiscal policy. Explain how multiplier analysis might be used to predict the effects of changes in fiscal policy. [12]

52. M/J 07/P4/Q5/b

Discuss whether a budget deficit should necessarily be a source of concern. [13]

53. M/J 05/P4/Q4/a

In August 2003 the US dollar rose in value against the euro as reports showed that Europe's economy failed to grow and Germany even fell into a recession.

Explain what the above statement means. [12]

54. M/J 05/P4/Q4/b

Discuss what policies the German government might use to combat the recession. [13]

55. M/J 04/P4/Q6/a

'The rise in interest might not have the desired effect of curbing the existing inflation' reported a newspaper in 2002.

Explain what effect a rise in interest rates might have on the level of total expenditure. [12]

56. M/J 04/P4/Q6/b

Discuss what policies apart from interest rate changes a government might use to control inflation. [13]

57. O/N 03/P4/Q6/a

Distinguish between monetary policy and fiscal policy. [12]

58. O/N 03/P4/Q6/b

Discuss how monetary policy might be used by a government in a time of inflation. [13]

59. M/J 03/P4/Q6/b

Discuss the ways in which a government might influence private investment in order to try to ensure sufficient economic growth in a country. [12]

UNIT 6

Employment and Unemployment

A2 Level

Macroeconomics

Notes Book 4

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Syllabus 2019 – 21

Employment/unemployment

- size and components of labour force
- labour productivity
- full employment and natural rate of unemployment
- causes of unemployment
- consequences of unemployment
- types of unemployment
- unemployment rate
- patterns and trends in (un)employment
- difficulties involved in measuring unemployment
- policies to correct unemployment



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Unit 6 Employment and Unemployment

Unemployed:

Those who are willing and able to work but have no job are known as unemployed.

Rate of Unemployment:

It is the percentage of no. of unemployed workers to the labour force.

$$\text{Rate of Unemployment} = \frac{\text{Total Number of Unemployed}}{\text{Labour Force}} \times 100$$

$$\text{Labour Force} = \text{Employed} + \text{Unemployed}$$

The level of unemployment refers to the total number of people who are unemployed whereas the rate of unemployment is the number of unemployed people as a percentage of the labour force.

The causes of unemployment

Unemployment can be divided into three main types: frictional, structural, and cyclical. Each of these types has different causes.

1. Frictional unemployment:

Frictional unemployment is unemployment that arises when workers are between jobs.

- **Search unemployment:** This arises when workers do not accept the first job or jobs on offer but spend some time looking for a better paid job.
- **Casual unemployment** refers to workers who are out of work between periods of employment including, for example, actors, supply teachers and construction workers.
- **Seasonal unemployment:** demand for workers fluctuates according to the time of the year. During periods of the year, people working in, for example, the tourism, hospitality, building and farming industries may be out of work.

2. Structural unemployment

As its name suggests, structural unemployment arises due to changes in the structure of the economy. Over time the pattern of demand and supply will change. Some industries will be expanding and some will be contracting. If workers cannot move from one industry to another industry, due to a lack of geographical or occupational immobility, they may become structurally unemployed. Structural unemployment can take a number of forms.

- **A change in the pattern of demand:** Some industries experience declining demand. This may be due to a change in consumer tastes. Certain goods may go out of fashion. Or it may be due to competition from other industries. For example, consumer demand may shift away from coal and to other fuels. This will lead to structural unemployment in mining areas.
- **Technological unemployment:** In this case, people are out of work due to the introduction of labour-saving techniques.
- **Regional unemployment:** When declining industries are concentrated in a particular area of the country, the resulting unemployment is sometimes referred to as regional unemployment.
- **International unemployment:** This is when workers lose their jobs because demand switches from domestic industries to more competitive foreign industries. For instance, the number of coal miners in the UK has fallen significantly over the past 40 years as the UK has lost its comparative advantage in coal mining.

Frictional and structural unemployment arise largely due to problems on the supply side of the economy.

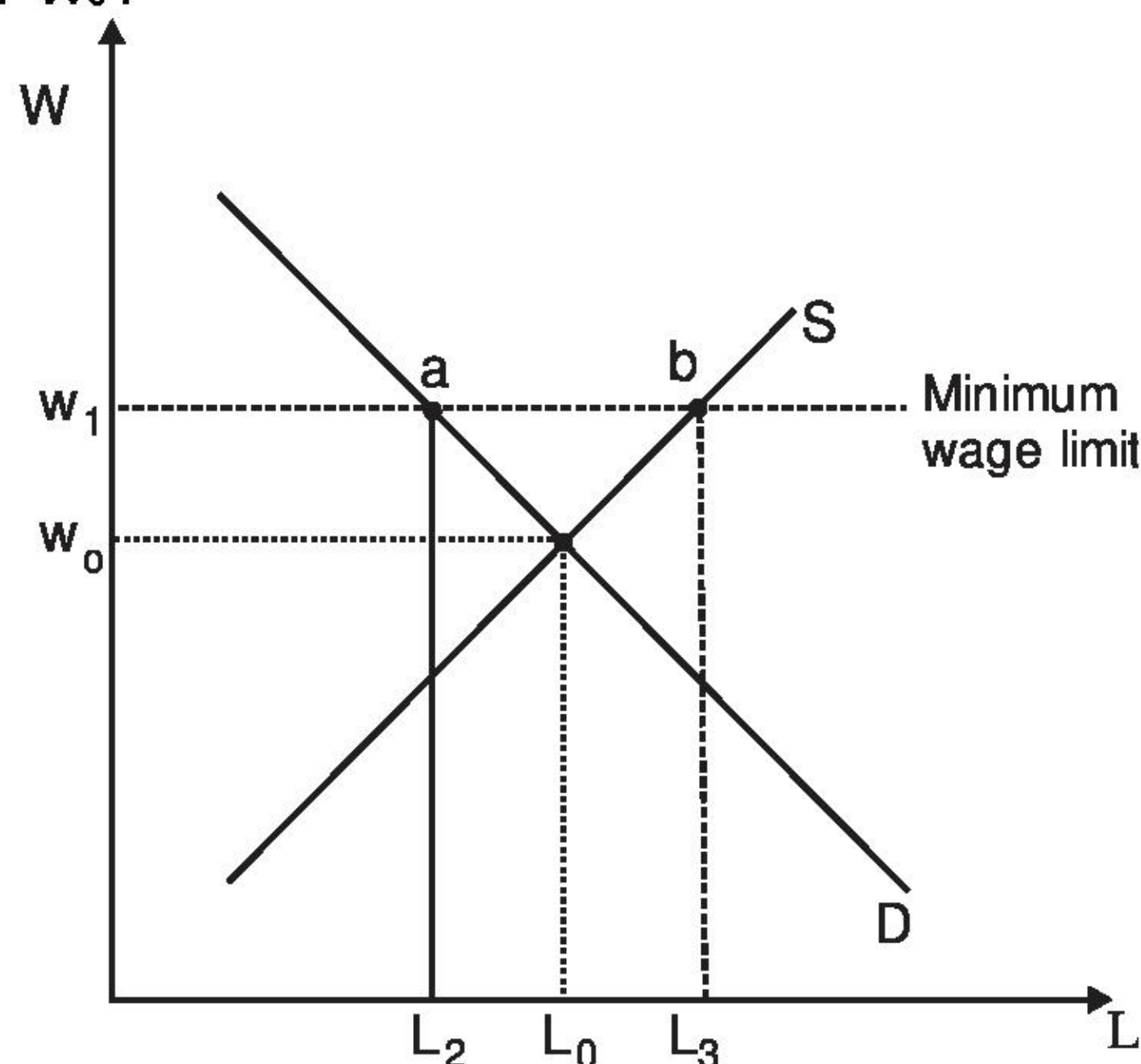
3. Real-Wage Unemployment/Classical Unemployment

Classical or Real wage unemployment exists when the real wage rate is above that needed to clear the labour-market.

Real wage rate might be driven up above the market-clearing level because:

- **Trade unions** use their monopoly power to drive wages above market-clearing level. (Trade unions serve the interests of their members, pushing up their wage level, negotiating for better work conditions etc.
- If **minimum wage legislations** set wages above market-clearing wage-level, it will create unemployment.

Classical/Real wage unemployment can be shown by the following figure where a rise in real wage to ' W_1 ' above market-clearing wage. ' W_0 '.



4. Too High Unemployment Benefits:

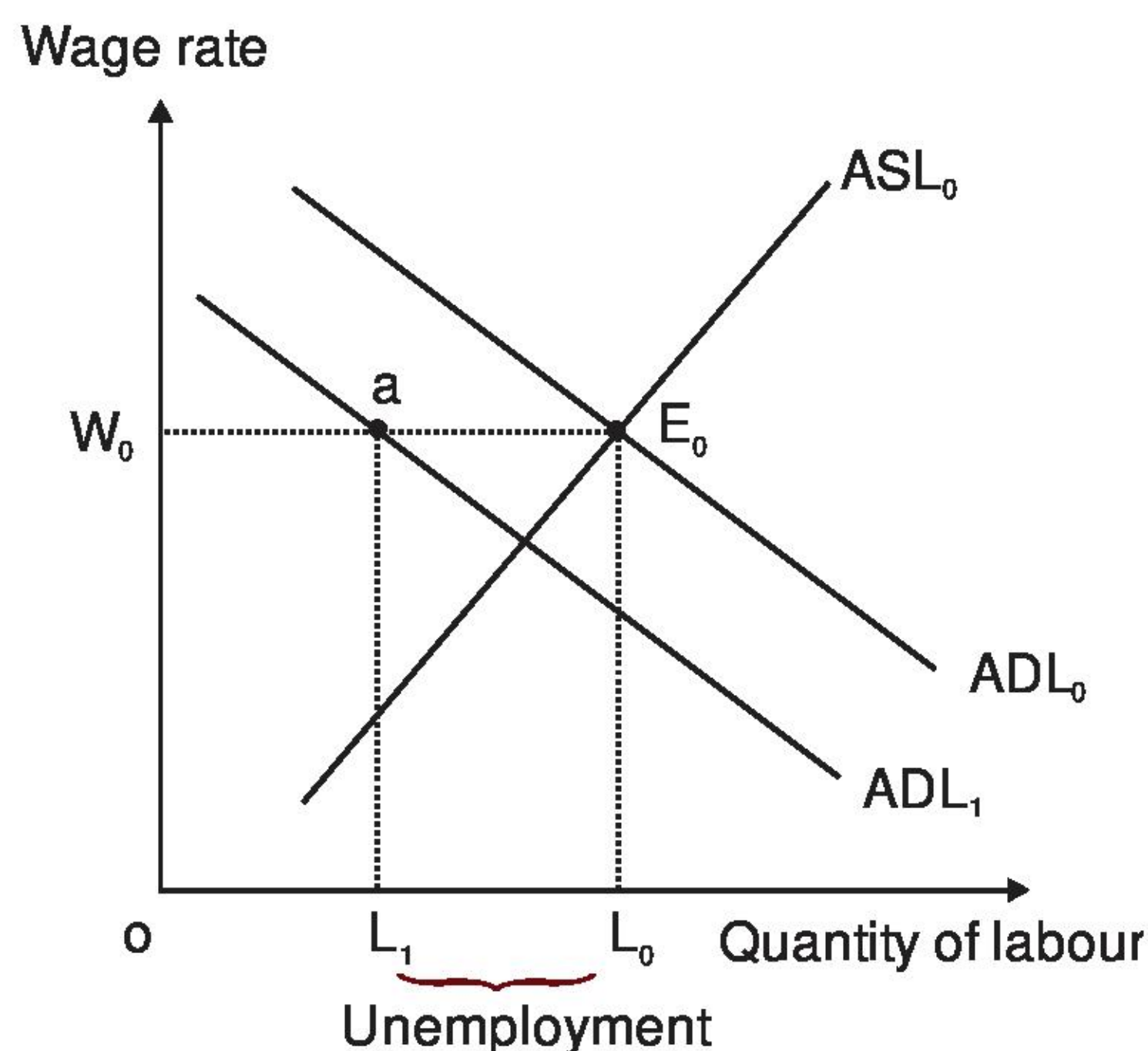
One reason why unemployed people refuse to take jobs is because unemployment benefits levels are too near the level of pay being offered. More the difference will be between market wage rate and level of unemployment benefits, more people will actively search jobs, lower will be unemployment.

5. Demand-deficient unemployment/Mass/Cyclical/Keynesian-Unemployment

The third main type of unemployment, cyclical unemployment or demand-deficient unemployment, arises due to a lack of aggregate demand. Cyclical unemployment will affect the whole economy, with job losses occurring across a range of industries.

Demand-deficient unemployment is associated with economic recessions. As the economy moves into recession, consumer demand falls. Firms find that they are unable to sell their current level of output. For a time they may be prepared to build up stocks of unsold goods but sooner or later they will start to cut back on production and cut back on the amount of labour they employ. The deeper the recession becomes and the longer it lasts, the higher will demand-deficient unemployment become.

Figure below shows the labour market initially in equilibrium at a wage rate of W . Then as a result of a fall in aggregate demand, firms reduce the output and aggregate demand for labour shifts to ADL_1 . If workers resist wage cuts, demand-deficient unemployment L_0L_1 will exist.



Even if wage rates fall, this type of unemployment may persist. This is because a cut in wages would reduce demand for goods and services as people would have less money to spend, which would cause firms to reduce both their output further and make more workers redundant.

As the economy recovers and begins to grow again, demand-deficient unemployment starts to fall. Because demand deficient unemployment fluctuates with the business cycle, it is sometimes referred to as 'cyclic unemployment'. Demand-deficient unemployment can also exist in the longer term if the economy is constantly run at below full capacity.

Voluntary and involuntary Unemployment

Involuntary Unemployment	Voluntary Unemployment
"Involuntary Unemployment" occurs when people are willing and able to work at the given real wage rate but no job is available."	Voluntary unemployment occurs when all those willing and able to work at the given real wage rate are working. This occurs when workers refuse opportunities of work at existing wage rates.
Only Cyclical Unemployment is Involuntary Unemployment. It is involuntary because unemployed workers can't choose to go back to work, because there are no jobs available.	Except cyclical unemployment, all other types of unemployment are examples of voluntary unemployment. For instance: i) Search Unemployment: It is 'voluntary' because a worker who is fractionally unemployed could choose to spend less time searching for work and take a job. Which is less well paid than he or she might have wanted. ii) Seasonal Unemployment: Seasonal is voluntary because seasonal workers could find odd jobs, such as working in pubs, restaurants or cleaning, to fill the months when they are out of work from their main occupation. iii) Structural Unemployment: Those suffering from structural unemployment could get a job if they were prepared to accept a low rate of pay or worse conditions of work. For instance, redundant steel workers could become bar attendants or security guards. iv) Classical Unemployment: It is voluntary because individual workers, trade unions or government choose to allow unemployment to exist by maintaining too high wages voluntarily.

Full-Employment / Natural rate of unemployment (NRU)

- The employment is said to be at full employment when there is no involuntary unemployment in the economy.
- The level of employment corresponding to where all who wish to work have found jobs, excluding involuntary unemployment.

Because frictional and structural unemployment are largely unavoidable in a dynamic economy, full employment is something less than 100 percent employment of the labour force. Economists say that the economy is “Fully employed” when it is experiencing only involuntary unemployment. That is, full employment occurs when there is no cyclical unemployment.

Natural Rate of Unemployment (NRU)/Non-Accelerating Inflation Rate of Unemployment (NAIRU):

The natural rate of unemployment is the percentage of workers who are voluntarily unemployed.

$$\text{NRU} = \frac{\text{No. of naturally unemployed (voluntary)}}{\text{Labour Force}} \times 100$$

NRU is also known as **Non-accelerating inflation Rate of Unemployment (NAIRU)**. More accurately speaking, NAIRU is the rate of unemployment when inflation is correctly anticipated and economy is at full-employment.

“Natural” does not mean, however, that the economy will always operate at this rate and thus realize its potential output. When cyclical unemployment occurs, the economy has much more unemployment than that which would occur at the NRU. Moreover, the economy can operate for a while at an unemployment rate below the NRU. At times, the demand for labour may be so great that firms take a stronger initiative to hire and train the structurally unemployed. Also, some homemakers, teenagers, college students, and retirees who were causally looking for just the right part-time or full-time jobs may quickly find them. Thus the unemployment rate temporarily falls below the natural rate.

Over time the natural rate of unemployment may fall as a result of:

- an increase in the mobility of labour
- an improvement in the education and training levels of workers
- a reduction in trade union restrictive practices a reduction in state unemployment benefits
- a cut in income tax.

The consequences of unemployment

Unemployment has consequences for the unemployed themselves, firms and the economy as a whole.

Effects on workers:

- Workers who lose their jobs are likely to experience a **fall in income**.
- They are likely to find it more difficult to get another job the longer they have been out of work. This is because they will miss training, will get out of touch with advances in technology and may lose confidence and skills (**deskilling**).
- They may also experience a decline in their **physical and mental well-being**.
- For a small number of people, there is a chance that a period of frictional or structural unemployment may give them the opportunity to search for a **more rewarding job**.

Effects on firms:

- Firms wanting to expand may have a **greater choice of potential workers**.
- benefit from workers **not pressing for wage rises** for fear of losing their jobs.
- They may, however, suffer from **lower demand for their goods and services**.

Effects on economy:

The economy will experience an opportunity cost.

- **Output will be below its potential level.** If the unemployed had been working, more goods and services would have been produced and living standards would have been higher.
- The **tax revenue** received by the government will be lower than with a higher level of employment.
- If **state benefits** are paid by the government, there will be an increase in government spending on the benefits which could have been put to other purposes..

Methods and difficulties of measuring unemployment

Most governments use two main measures of unemployment.

- Claimant count measure
- labour survey measure

1. Claimant count measure:

Claimants mean number of people claiming for unemployment benefits.

$$\text{Rate of Unemployment} = \frac{\text{Claimants}}{\text{Claimants} + \text{Employed}} \times 100$$

Advantages:

- relatively cheap to measure unemployment.
- quick to calculate
- Inactive population will be excluded from the unemployed.

Problems:

It may overstate or understate the true figure.

- **Government manipulations:** government might understate unemployment figures for political reasons.
- **Rules for eligibility:** Government might change rules for eligibility e.g. any one must be unemployed more than '4' weeks' to be eligible to claim for unemployment benefits in UK.
- **False claims:** People who are doing unrecorded jobs might also make false claims for unemployment benefits.
- **Choose not to claim benefits:** People who are supported by their families will be unemployed but would not be claiming unemployment benefits, e.g., older age people between the ages of 50 and 65 might be supported by their children or women who are financially supported by their husbands might not claim for unemployed benefits.
- **Lack of information or lack of access to job centers:** People living in distant areas will be unemployed but will not be registered in jobs centers for unemployment benefits. it might be because of lack of information or lack of access to job centers.
- Will not be useful in **less developed economies** like India and Pakistan.

2. Labour survey measure:

The more widely used measure involves a labour force survey using the International Labour Organization (ILO) definition of unemployment. In ILO measurement, data collection authorities conduct surveys at different places and different time periods and collect information about employed, unemployed, working conditions, wage rate etc frequently. The questionnaires are used to cover household size and structure, accommodation details, basic demographic characteristics, such as age, sex, marital status and ethnic origin, and economic activity. To be counted as unemployed, an individual has:

- to be without a paid job
- to be available to start a job within a 2 weeks
- has either looked for work at some time or been waiting to start a job already obtained

$$\text{Rate of unemployment} = \frac{\text{no. of people reporting themselves unemployed}}{\text{total no. of people in surveys}} \times 100$$

Advantages

- Government authorities will not be able to manipulate figures easily
- Include all those who are willing and able to work even if not claim for unemployment benefits.
- It is based on internationally agreed concepts and definitions, so makes international comparisons easier.
- More information is found on, for example, the qualifications job seekers have.

Problems

- False information provided by public
- Reliability of figures depends upon the number of times surveys are conducted in a year.
- Reliability of data depends upon the data collecting authorities surveying skills, sophistication of data recording equipment and biases
- Expensive to conduct
- more time consuming
- as the data are based on a sample survey, they are subject to sampling error
- Even include those who are not actively seeking for jobs or those who are on training or completing their education i.e. inactive population.

Overall, labour survey method is considered more reliable than claimant count measure.

Policies to correct unemployment

Type of unemployment	Policies
Real-Wage Unemployment or Classical Unemployment	– By Trade unions reforms – By abolishing minimum wage laws
Structural unemployment	– Subsidizing declining industries – Retraining (increasing occupational mobility) – Infrastructure ↑ – tax free zones – Increasing geographical mobility. – tax cuts
Frictional unemployment	– increase job-information by advertising of vacancies in national media e.g. newspapers – development of job centers. – increase in mobility of geographical and occupational mobility of labour (e.g. by education and training). – reduce unemployment benefit and income tax rates to increase the reward from working and so encourage people to spend less time between jobs
Cyclical or demand deficient	1. Expansionary Fiscal Policy – a reduction in indirect or direct taxation to increase consumer expenditure – a cut in corporate taxes to stimulate investment

	– an increase in government spending. 2. Expansionary Monetary Policy – reducing the rate of interest to increase consumer expenditure and investment – increasing the money supply to, again, increase consumer expenditure and investment 3. Exchange rate devaluation – lowering the exchange rate, either through a formal devaluation or through intervention in the foreign exchange market in the case of a managed float, to increase net exports. 4. Protectionism – tariff, quota, embargo etc to discourage imports and encourage local industries
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The pattern and trends in (un)employment

Over time the pattern of employment and unemployment tends to change.

When:

- an economy develops
- comparative advantage changes
- gender structure of population changes
- age structure of population changes
- proportion of primary, secondary and tertiary industries changes
- changes in demand patterns in an economy

Influences on the size and composition of the labour force

The labour force in an economy is defined as the total number of workers who are available for work. It therefore refers to all males and females who can contribute to the production of goods and services. It includes not only those who are actually in employment but also includes those who are unemployed and who are seeking employment.

$$\text{Labour Force} = \text{Employed} + \text{Unemployed}$$

The size of a country's labour force depends upon a wide range of demographic, economic social and cultural factors, such as:

- the total size of the population of working age
- the number of people who remain in full-time education above the school leaving age
- the retirement age
- the proportion of women who join the labour force.

A country with a higher number of people of working age is likely to have a larger labour force than one with a smaller number of people in the working age group. This, however, is not always the case. This is because the size of the labour force is also influenced by the labour force participation rate. This refers to the percentage of the total population of working age who are actually classified as being part of the labour force.

$$\text{labour force participation rate} = \frac{\text{labour force}}{\text{workig age group}} \times 100$$

For most economies the rate is usually between 50% and 70%. There are two main reasons why the labour force participation rate may be relatively low in a developed economy. These are a higher participation rate

in higher education and a relatively large proportion opting for early retirement. In some developing economies, the difference is due to the contribution of women in the labour force being constrained by social and cultural factors.

Labour productivity

Labour productivity refers to the quantity of goods and services that a worker is able to produce in a given period of time. It is usually measured in terms of output per worker hour.

An increase in labour productivity will increase an economy's productive potential. Labour productivity may increase as a result of improvements in education and training, greater experience, being able to work with more capital equipment and being able to work with technologically advanced equipment.

Past Paper Questions

Topic: Causes or Types of Unemployment

1. O/N 18/P42/Q5/a

Robots are increasingly used in various areas of production.

Explain the type of unemployment which may arise as a result of the increased use of robots. Consider the contribution this may make to total unemployment in an economy. [12]

2. O/N 18/P43/Q5/a

Explain what is meant by the term 'natural rate of unemployment'. Consider which types of unemployment would cause this rate to rise. [12]

3. M/J 18/P41/Q5/a

Distinguish between structural and frictional unemployment. Consider which would be likely to have the greater negative effect on an economy. [12]

4. O/N 17/P43/Q5/a

Analyse what might cause an increase in unemployment in an economy. [12]

5. O/N 17/P42/Q7/a

In many countries there is a concern about the rate of unemployment.

Consider what are likely to be the main causes of unemployment. [12]

6. O/N 16/P42/Q5/a

Explain the causes of unemployment and consider what type of unemployment is the most serious for the country in which you live. [12]

7. M/J 16/P42/Q7/b

Consider whether a developing country is likely to experience different types of unemployment compared with a developed country. [13]

8. Specimen paper 2016/P4/Q6/a

In 2011, one of the UK's largest multinational banks announced it would reduce the number of people it employed by 43 000 - the equivalent size of a small town. (Source: adapted from *The Times*)

Analyse what might cause an increase in unemployment. [12]

9. M/J 15/P42/Q2/b

Explain the difference between structural, cyclical and seasonal unemployment and discuss whether a general rise in income in a country would have the same effect on each of these types of unemployment. [13]

10. M/J 14/P42/Q6/a

Explain the possible causes of unemployment and explain which is responsible for most of the unemployment in your country. [12]

11. O/N 13/P41/Q6/a

Explain the possible causes of a rise in unemployment. [12]

12. M/J 13/P41/Q7/a

A newspaper reported that 'unemployment had risen for the third consecutive month.' What might be the cause of a rise in unemployment? [12]

13. O/N 12/P43/Q6/a

Explain the causes of unemployment and consider which cause is the most significant for a country with which you are familiar. [12]

14. M/J 10/P42/Q6/a

Explain the causes of unemployment. [12]

15. M/J 09/P4/Q5/a

In 2006 it was reported that a country's unemployment rate had remained steady and that its central bank, through its interest rate policy, had prevented an increase in inflation despite a sharp rise in oil prices.

Explain what might cause unemployment. [12]

Topic: Effects of Unemployment**1. O/N 17/P43/Q5/b**

Discuss what impact an increase in unemployment is likely to have on an economy. [13]

2. Specimen paper 2016/P4/Q6/b

In 2011, one of the UK's largest multinational banks announced it would reduce the number of people it employed by 43 000 – the equivalent size of a small town. (Source: Adapted from *The Times*)

Evaluate the impact of an increase in unemployment on an economy. [13]

Topic: Measurement Of Unemployment**1. M/J 13/P21/Q3/a**

Explain how unemployment and inflation are measured. [8]

2. O/N 11/P21/Q4/b

Discuss the problems that governments face in trying to produce accurate unemployment statistics. [12]

3. O/N 07/P2/Q4/b

Unemployment can be measured by the claimant count or the labour force survey. Discuss the relative reliability of these two measures. [12]

4. O/N 05/P2/Q4/a

Explain why it is difficult to measure unemployment accurately. [8]

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UNIT 7

Macroeconomic Objectives and Conflicts Between Policy Objectives

A2 Level

Macroeconomics
Notes Book 4

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Syllabus 2019 – 21

Government macro policy aims on:

- inflation
- balance of payments
- exchange rates
- unemployment
- growth and development

Inter-connectedness of problems

- effectiveness of policy options to meet all macroeconomic objectives
- links between macroeconomic problems and their interrelatedness, for example:
 - relationship between internal and external value of money
 - relationship between balance of payments and inflation
 - trade-off between inflation and unemployment; Phillips curve
- problems arising from conflicts between policy objectives on inflation, unemployment, economic growth, balance of payments, exchange rates and the redistribution of income and wealth

Keynesian and Monetarist schools

- different theoretical approaches to how the macro economy functions

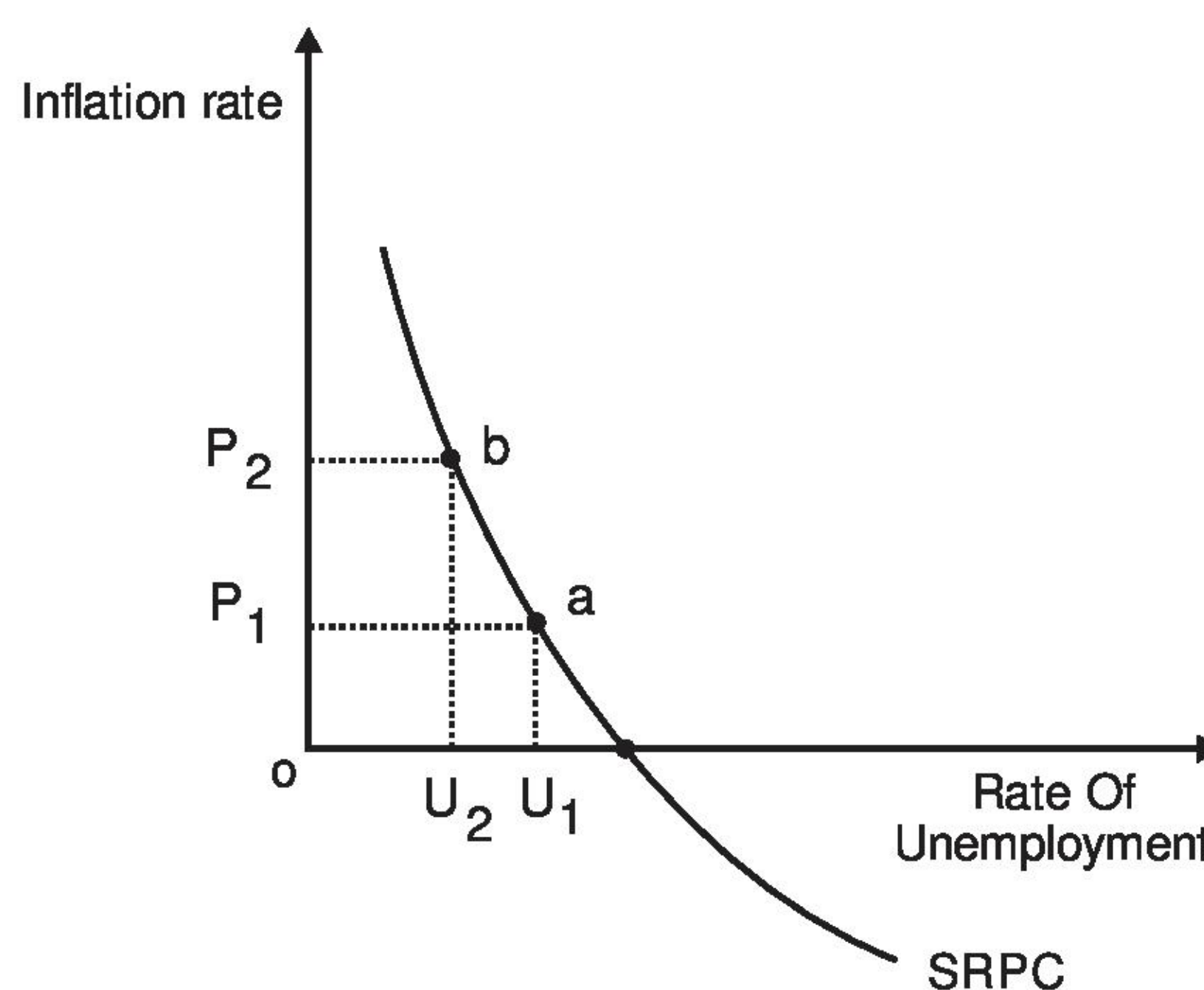
Unit 7 Macroeconomic Objectives and Conflicts Between Policy Objectives

Short-Run Philips Curve (SRPC):

The Philips curve shows the relationship between inflation rate and rate of unemployment.

(Note: the original curve showed the relationship between the rate of change of nominal wages and unemployment. NOT the rate of change of prices and unemployment).

The curve was originally produced by AW Philips in 1958 and suggested a trade-off between inflation and unemployment; i.e., if unemployment rate fell, inflation rate would rise and vice versa. This fitted in with thinking at the time—i.e., to reduce inflation the Government had to spend more money to boost aggregate demand, and this would probably pull up prices. The model suggested that the Government simply had to pick which point on the Philips curve it wanted the economy to be at and then introduce the appropriate policies.

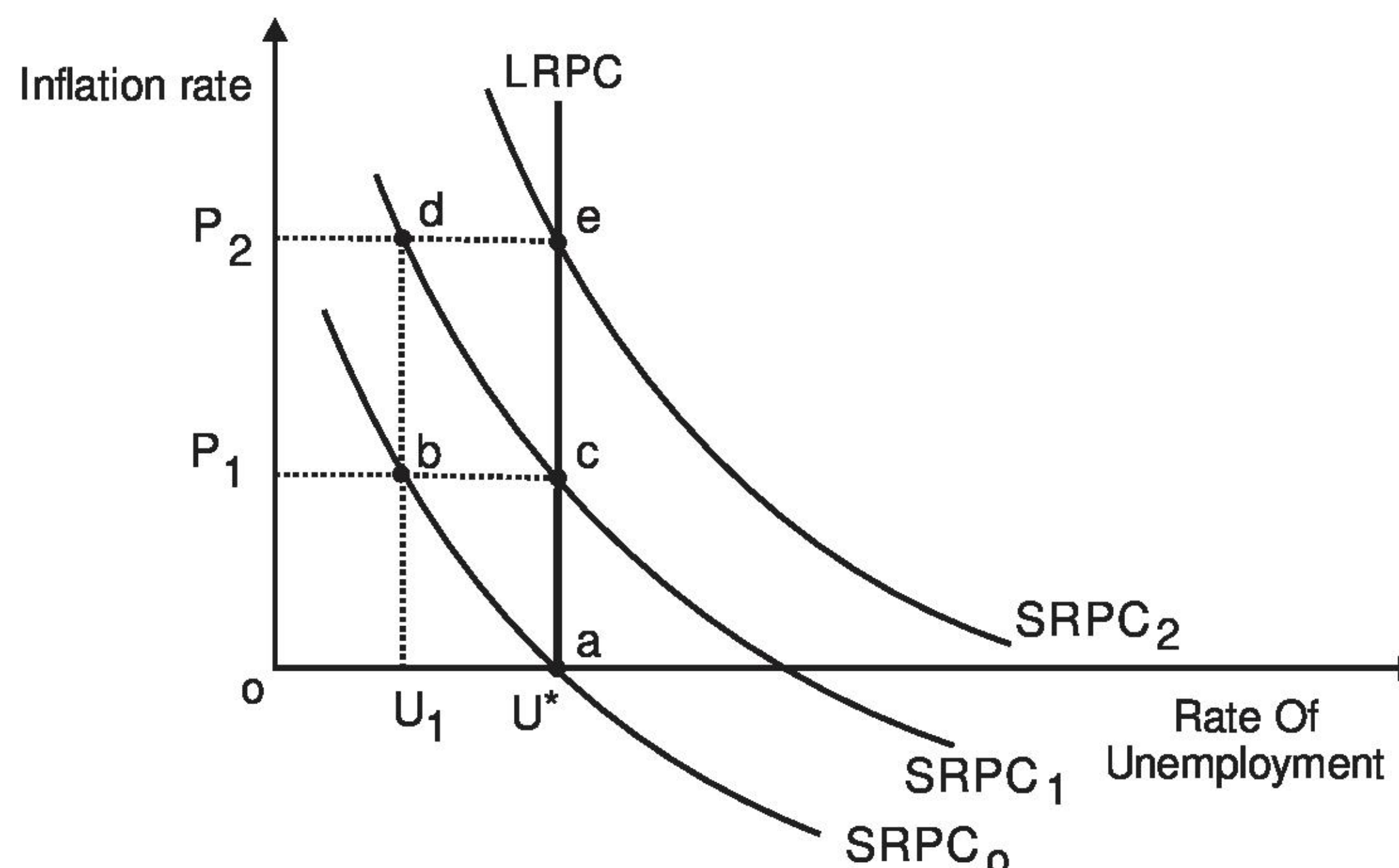


Changes In Short-Run Philips Curve

Endogenous Factors	Exogenous Factors
• Demand pull inflation rate • Cyclical unemployment rate	• Cost push inflation • Natural rate of unemployment • Changes in anticipation of inflation
This graph is identical to the one above, showing the SRPC curve with points 'a' and 'b' at (U_1, P_1) and (U_2, P_2).	This graph shows three parallel, downward-sloping curves labeled $SRPC_1$, $SRPC_0$, and $SRPC_2$, where $SRPC_1$ is the highest, $SRPC_0$ is the middle, and $SRPC_2$ is the lowest. The axes are 'Inflation rate' and 'Rate Of Unemployment'.

Long-Run Philips Curve (LRPC):

In the 1970s there were high levels of inflation and high unemployment (called stagflation) which did not seem to fit with the original Philips curve. The new situation was explained by an expectations augmented Philips curve (Friedman). This model introduced short and long run Philips curves and suggested that there was a short run trade-off between inflation and unemployment but no long run trade off. Each short run curve is constructed based on a level of expected inflation.



- Imagine that the economy is at equilibrium at "a". Employees expect inflation to be 0% and it is 0%: the economy is in long run equilibrium; unemployment is at the natural rate, i.e., U^* .
- Then an increase in aggregate demand pulls up inflation to P_1 say 4%. Workers still expect 0% and are often locked into contracts for at least a year. This means in real terms employees are cheaper (prices are increasing at 4%), and so firms demand more labour. This excess demand for labour gradually pulls up money wages, and more workers accept jobs because they think they are better off (note: in real terms they are actually worse off because inflation is 4%). Unemployment falls to ' U_1 ,' i.e., say, 2%.
- Overtime, however, in long run, employees learn that inflation is 4% and bargain for more pay price. An increase in wages will raise the cost of production shifting SRPC outward to $SRPC_1$ where wages will once again grow together at 4%. Workers are no longer cheap in real terms and so the economy returns to full employment at "c". (i.e., 4% at U^*). Everyone now expects 4% but if the Government uses expansionist policies which result in 5% inflation, the workers can once again be caught out. They will become relatively cheap because they are paid, say, 4.5% until they realize prices are growing at 5% as shown by points "d" and "e". To keep fooling the workers in future, the Government will have to bring about bigger jumps in inflation so employees suggest that in the short run unemployment can be kept below full employment by fooling the employees, but it may require ever accelerating increases in inflation to do it.
- A curve joining long run equilibrium points a, c and e is LRPC.
- In the long run there appears to be no trade off between inflation and unemployment: the economy returns to its long run equilibrium. Once employees realize what inflation is and increase their money wages accordingly the real wage returns to the long run equilibrium and the economy is at full employment.
- Any rate of unemployment below U^* will accelerate inflation. However, an unemployment rate equal to U^* will not accelerate inflation and therefore is known as Non-Accelerating Inflation Rate of Unemployment (NAIRU).
- The short run trade off occurs because of money illusion' employees focus on their money wages and not their real wages, e.g. when money wages rise, more people accept jobs in the short run even though real wages may not have increased; when workers realize what has happened to prices and demand higher nominal wages; the real wage is restored to long run equilibrium.

Rational expectations:

People do not form expectations of future inflation based on the past, i.e. they do not have adaptive expectations. They look ahead and make an estimate based on all the information they have available at that moment, i.e. they are rational. For example, if workers think the Government will reduce inflation in the future, they will cut their wage demands relatively quickly. This means the economy can adjust to the long run equilibrium fairly quickly and any short run Philip curve is very short run indeed. In its extreme version, rational expectations mean that workers cannot be fooled at all (i.e. there is no money illusion) and the Government cannot reduce unemployment below the natural rate even in the short run.

Government economic aims:

Microeconomic Aims	Macroeconomic Aims
• Provision of merit goods • Provision of public goods. • Control of monopolies • Encouraging Competition • Competition factor markets • Minimization of external costs • Equity and Efficiency. • etc.	• Price Stability • Balance of payments • exchange rate • Full employment • Sustained Economic growth • economic development • Income equalities

The aims of government macroeconomic policy are outlined above.

1. Price Stability:

Governments seek to achieve price stability. This actually means low and stable inflation. An increasing number of governments are setting an inflation target (the rate a central bank is set to achieve) for their central banks to achieve. An inflation target makes the central bank more accountable and may reduce inflationary expectations if firms, householders and workers have confidence in the central bank's ability to meet the target.

2. Balance of payments:

Governments may have different aims for the balance of payments.

- Most governments do seek to achieve a balance on the current account of the balance of payments over time.
- a government may welcome a current account deficit if it arises from the import of raw materials and capital goods.
- It may encourage a current account surplus in order to boost aggregate demand or to provide funds to repay external debt.
- A government may also encourage a surplus on the financial account of the balance of payments by attracting foreign direct investment. The investment could increase output and employment in the country.

3. Exchange rate:

There are a range of aims a government may have for its exchange rate.

- A government will usually seek to prevent wide fluctuations in the value of a floating exchange rate because such fluctuations are destabilizing.
- It may decide to operate a fixed exchange rate or a managed float. In these two cases, it may have to maintain the rate or may seek to alter its value.
- It may attempt to raise the external value of the currency in order to reduce inflationary pressure
- it may seek to reduce its value to gain a competitive advantage. A lower exchange rate may increase output and create jobs.

4. Employment and unemployment:

Governments seek to achieve as low unemployment as possible. The nearer an economy is to full employment, the higher output will be and the higher the living standards people are likely to enjoy. Governments will be particularly anxious to reduce long-term unemployment as such unemployment can result in workers being discouraged and dropping out of the labour force. A reduced labour force would lower potential output.

5. Economic Growth:

Governments seek to increase both actual and potential output. They try to achieve sustained growth by matching the trend growth in potential output with increases in actual output. They also try to ensure that economic growth is sustainable so that future generations will be able to enjoy higher living standards.

6. Economic Development:

As well as trying to achieve economic growth, governments aim for economic development. They seek, for instance, to increase life expectancy and educational opportunities. Governments aim for both economic progress and economic development.

It is easier to assess their performance in achieving economic progress as, for example, economic growth, unemployment, inflation and the balance on the current account position can be measured. There are measures of economic development, such as the Human Development index, but no measure captures all the influences on economic development and some of the measures are hard to measure as they are subjective.

Top priority of macroeconomic aims:

Remember that a government is likely to prioritize its aims according to its current macroeconomic performance.

Conflicts among macroeconomic aims:

1. Between the internal and external value of money

a. Effect of changes in internal value of currency over external value:

The internal value of a country's currency and its external value may be closely connected. The internal value will fall as a result of inflation. Each unit of the currency will buy less in the domestic market.

If the internal value of a country's money falls as a result of a rise in its inflation rate above that of rival countries, demand for its products will fall. As a result, demand for the country's currency will fall as foreigners buy fewer of the country's exports, while the supply of the currency on the foreign exchange market will rise as more imports are purchased. The reduced demand and higher exports, while the supply of the currency on the foreign exchange market will rise as more imports are purchased. The reduced demand and higher supply of the currency will cause a depreciation.

b. Effect of changes in external value of currency over internal value:

A change in the external value of the currency—the exchange rate—will, in turn, affect the internal purchasing power of a country's money. A fall in the exchange rate will raise the price of a country's imports in terms of the home currency. This will directly and indirectly reduce the value of the country's money. Each unit of the currency will now buy fewer of the now more expensive finished imported products.

Purchasing power may also be reduced as a result of the increase in the price of imported raw materials and the reduction in competitive pressure, driving up the prices of domestically produced products. So the internal and external values of a country's money tend to be directly related, with a fall in the internal value leading to a fall in the external value and vice versa.

Connection between internal and external values of a currency depends upon:

- exchange rate
- relative inflation rate of trading partners

A country may experience inflation, but if it has a fixed exchange rate or if its inflation rate is below that of rival countries, its external value may not even fall. Indeed, it may rise.

2. Between the balance of payments and inflation

a. Effect of inflation on current account balance:

As mentioned above, if a country's inflation rate rises above that of its main competitors, its price competitiveness will fall. Export revenue will decline while import expenditure rises and the current account balance will deteriorate.

b. Effect of current account balance on inflation:

An increase in a current account surplus may cause inflation as it will mean that net exports are making an increasing contribution to aggregate demand and more money will be flowing into the country than leaving it. This upward pressure on the domestic price level and so downward pressure on the internal value of the currency may, however, be short-lived. This is because an increasing current account surplus may cause a rise in the exchange rate. An appreciation may reduce the surplus and will tend to reduce the inflation rate as the price of imported products will fall and there will be more pressure on domestic firms to keep their prices low.

c. Effect of financial account balance on inflation:

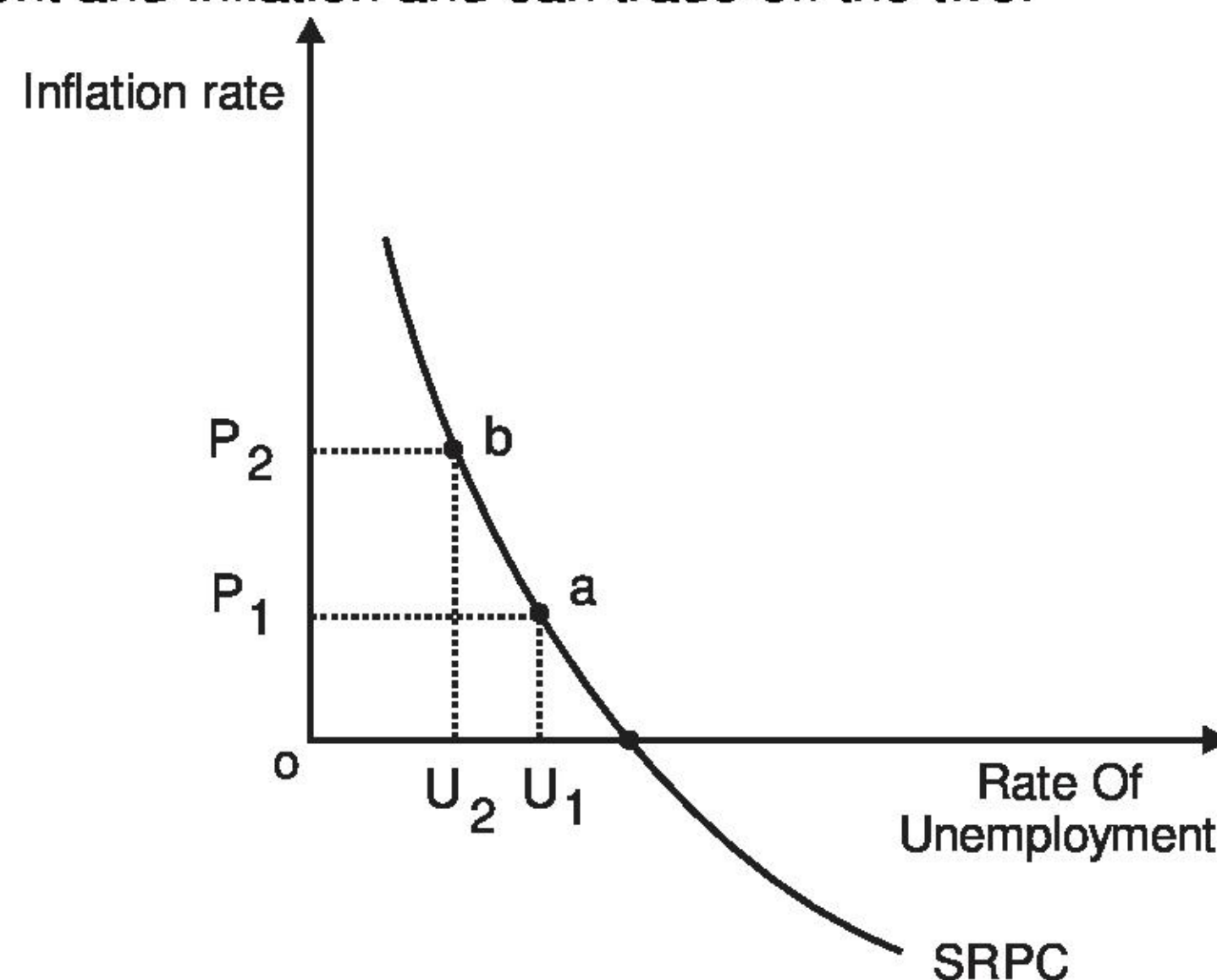
A net inflow on the financial account may reduce a country's inflation rate if MNCs bring in advanced technology and increase competitive pressure within the economy.

A conflict may arise between the aims of low inflation and a reduction in a current account deficit. A central bank may raise the rate of interest. Such a move will not only increase unemployment; there will also be a knock-on effect on the balance of payments position and the exchange rate. A rise in the interest rate is likely to lead to an appreciation in the exchange rate. This could worsen the current account position but may attract hot money flows.

3. Between unemployment and inflation

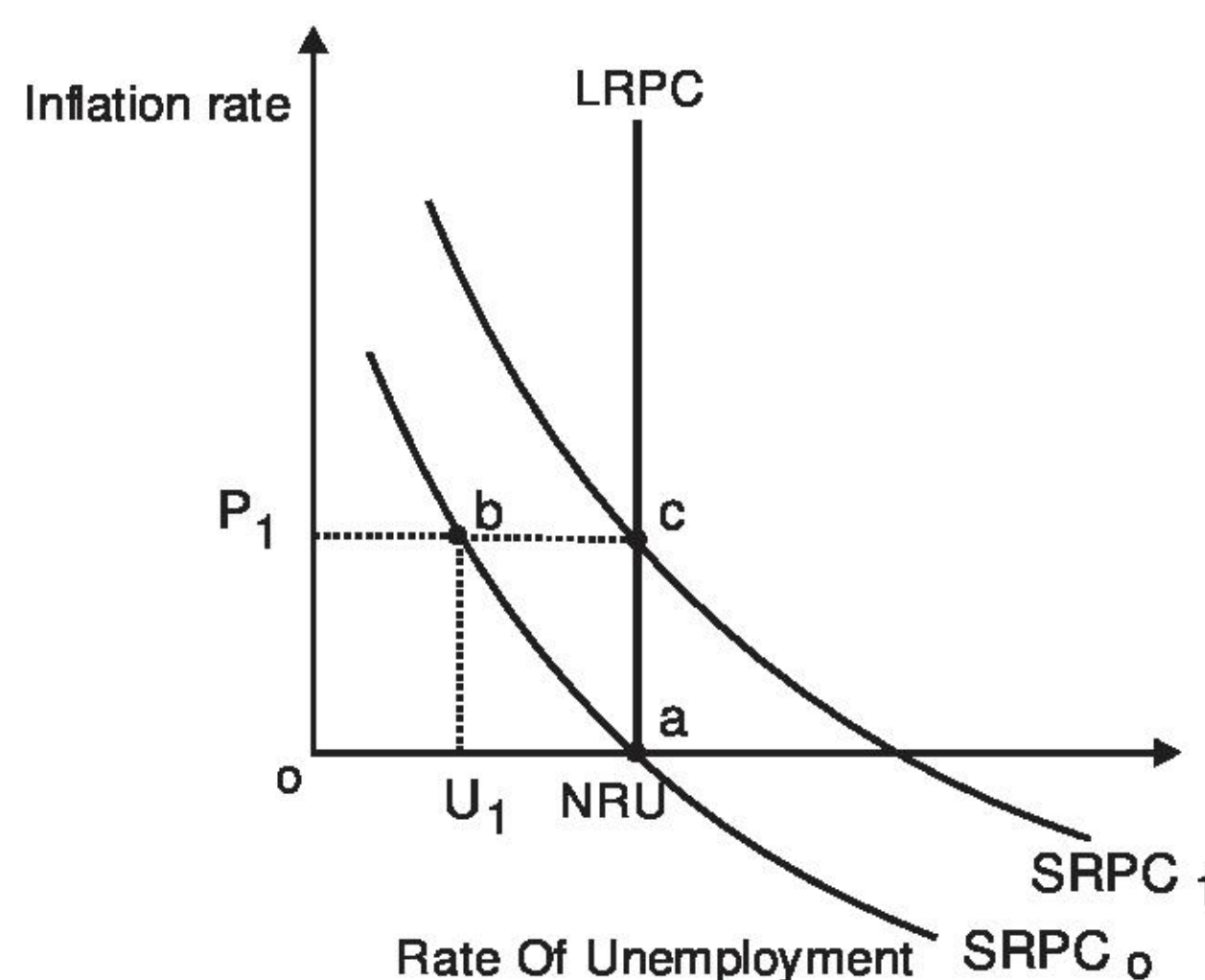
Bill Phillips, a New Zealand economist based at the London School of Economic analyzed historical data on the relationship between changes in unemployment and money wages (taken as an indicator of inflation) in the UK over the period 1861 – 1957. He found an inverse relationship, as shown in Figure below.

A fall in unemployment may cause higher inflation due to extra aggregate demand and the possible upward pressure on wages. The traditional Phillips curve suggests that a government can select its best combination of unemployment and inflation and can trade off the two.



However, this interpretation supported by Keynesians is questioned by monetarists. They argue that, while there may be a short-run trade-off, in the long run government policy measures to increase aggregate

demand will have no impact on unemployment but will only succeed in raising the inflation rate. To support this view, Milton Friedman developed the expectations-augmented Phillips curve (a diagram that shows that while there may be a trade-off between unemployment and inflation in the short run, there is no trade-off in the long run.), as shown by the vertical line in Figure below. The position of this line is determined by the natural rate of unemployment.



Firms expand their output and more people are attracted into the labour force as a result of the higher wages. However, when firms realize that their costs have risen and their real profits are unchanged, they will cut back on their output and some workers, recognizing that real wages have not risen, will leave the labour force.

4. Between economic growth and inflation

Government reflationary fiscal and monetary policy measures designed to either reduce unemployment and/or increase the economic growth rate may, increase the rate of inflation. Similarly, if a government seeks to reduce demand-pull inflation by adopting deflationary fiscal and monetary policy measures, it may reduce the economic growth rate and increase the unemployment rate.

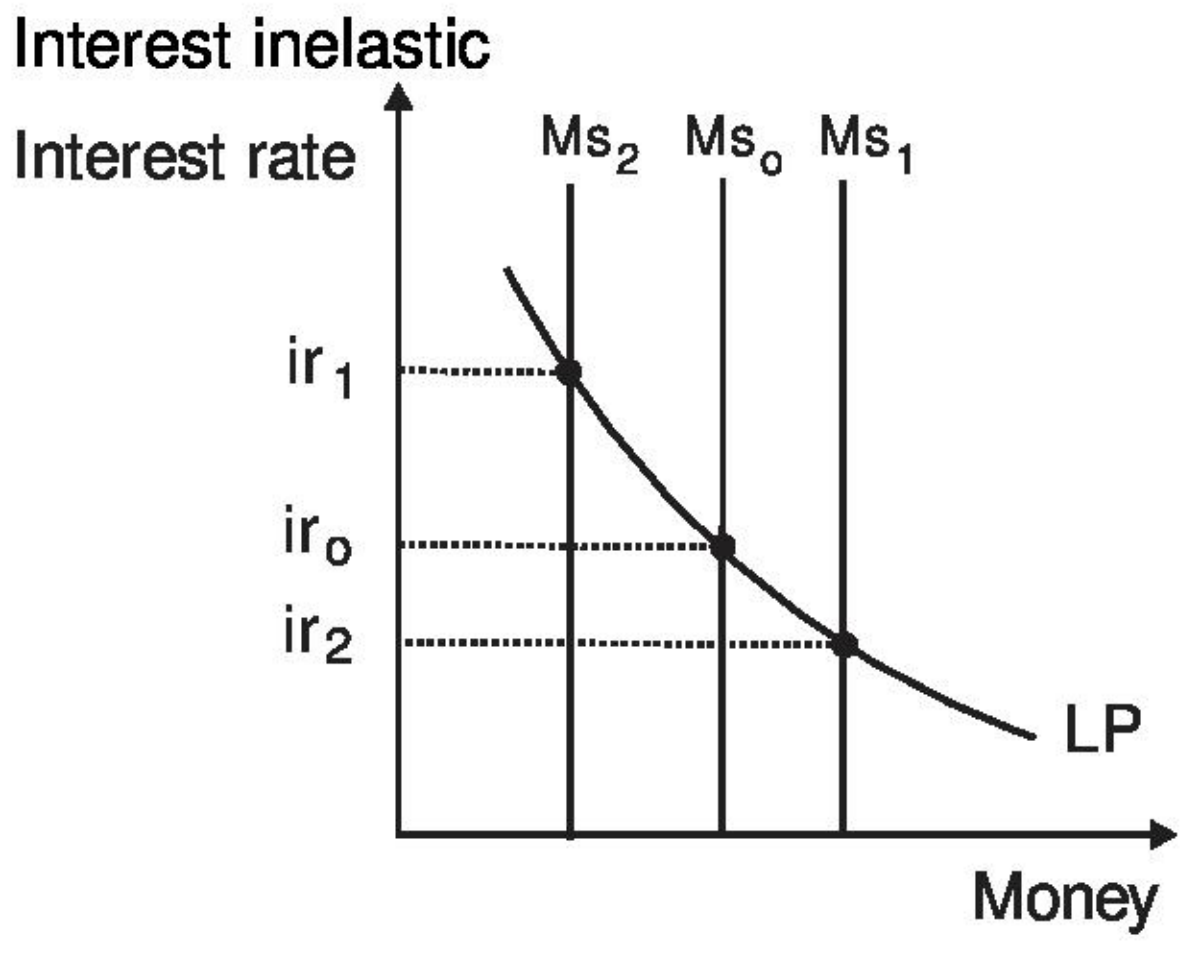
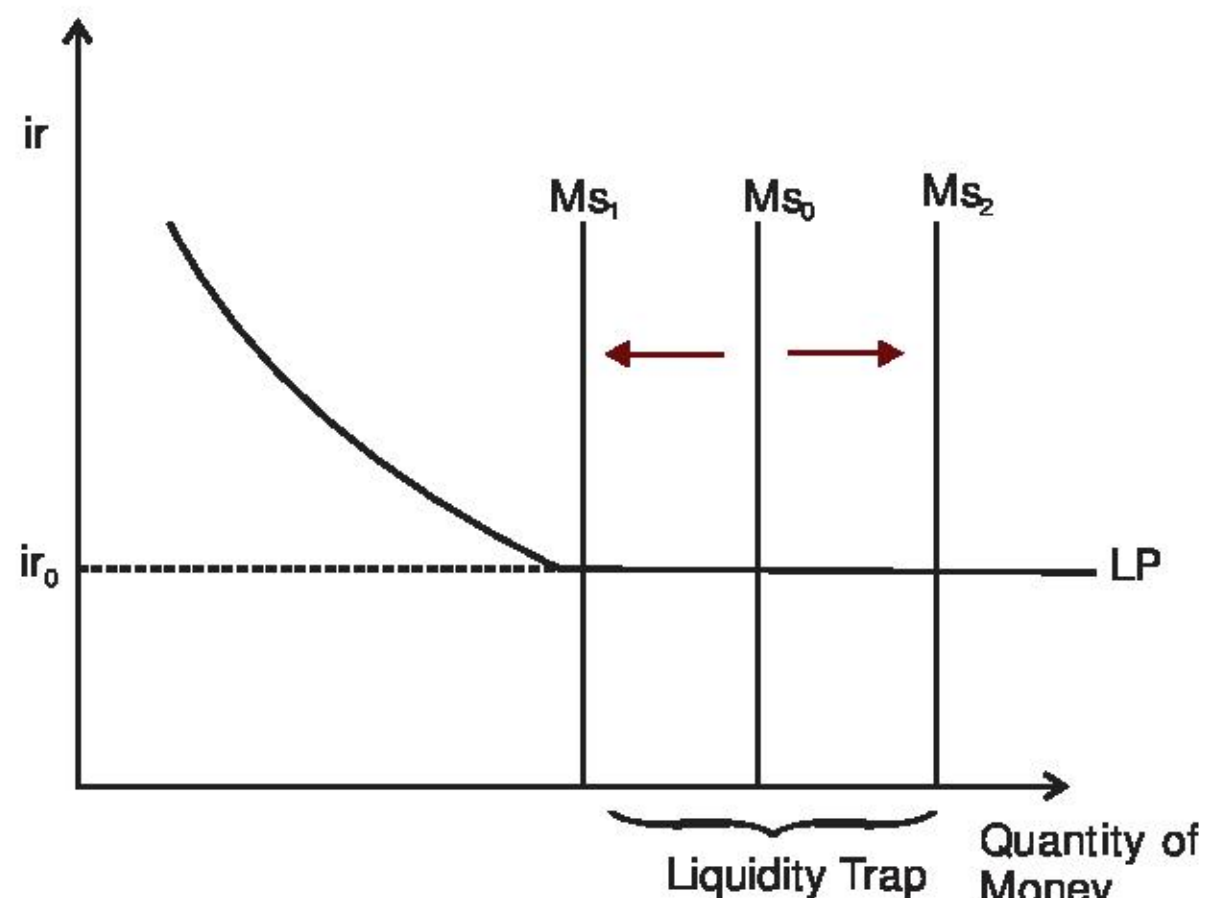
A government may seek to avoid these policy conflicts by introducing supply side policy measures that may, in the long run, reduce the inflation and unemployment rates and increase the economic growth rate.

5. Between income equality and stimulating economic growth:

There may also be a conflict between creating greater income equality and stimulating economic growth. Making income tax rates more progressive and increasing benefits to low-income groups may discourage effort and enterprise and may reduce FDI. There is, however, the possibility that raising the living standards of the poor may improve the health and education of part of the labour force and so raise productivity. In addition, effort and enterprise maybe more influenced by wage rates and profit levels than tax rates. Similarly, FDI may be attracted despite relatively high tax rates if, for instance, demand in the country is increasing and the country's workers are becoming more skilled.

To avoid conflicts between policy objectives, a government may employ a separate policy measure for each objective. Such an approach is said to be following **Tinbergen's rule** (for every policy aim there must be at least one policy measure.). For example, a government may cut income tax in order to reduce unemployment, while it may devalue the currency in a bid to improve the current account position. In practice governments use a combination of fiscal, monetary and supply side policy measures.

Keynesian and monetarist theoretical approaches

		Classical / Monetarists	Keynesians
1.	Proposed by	Milton Friedman (1912-2006)	John Maynard Keynes (1883-1946)
2.	Economic equilibrium	At full employment	At below full employment
3.	Stability of economy	Basically stable- if left to market forces the economy will achieve a full employment level of GDP automatically in long run	Basically unstable- if left to market forces there is no guarantee that the economy will achieve a full employment level of GDP
4.	Private expenditure	Basically stable	volatile
5.	Depressions and mass unemployment	Only temporary and Full employment (or 'the natural rate of unemployment') is the normal condition	Can persist
6.	Cause of depression	Decline in money supply	Decrease in government spending
7.	Cause of inflation	inflation is the result of an excessive growth of the money supply	inflation is the result of independent cost-push factors (wages and output prices)
8.	Fiscal Policy	Government's use of expansionary fiscal policy is doomed to failure. Budget deficits (created by expansionary fiscal policy) cause increases in interest rates, crowding out private expenditure.	Governments use fiscal policy to manipulate the economy. Budget deficits ($G \uparrow$ and $T \downarrow$) act as a stimulus to the economy via the multiplier raising AD, GDP and employment. Therefore fiscal policy is the only effective solution to recover for an economy from recession.
9.	Interest elasticity of Liquidity preference or demand for money	Interest inelastic 	Interest elastic and even perfectly elastic with liquidity trap 
10.	Interest elasticity of Investment (MEC)	Interest elastic	Interest inelastic and investment mainly depends on other factors than interest rate

11.	Monetary policy	Monetary policy is the best option available to governments	Monetary policy is not effective enough
12.	Money illusion and trade off between unemployment and inflation	Workers do understand and have information of the changes in their real wages. This produces a LRPC on which an increase in AD will only end up with more inflation, keeping the unemployment rate unchanged at the natural rate of unemployment (NRU). If the government attempts to reduce unemployment below the natural rate of unemployment (NRU), in the short run, a trade-off occurs because of 'money illusion'. Employees focus on their money wages and not their real wages, e.g. when money wages rise, more people accept jobs in the short run even though real wages may not have increased. However, in the long run, workers realize a fall in their real wages and therefore adjust their expectations of inflation accordingly. Demand for higher wages by workers restores employment to the natural rate, and therefore any attempt to reduce unemployment below NRU will only accelerate inflation.	Workers suffer from asymmetric information and they are trapped in money illusion when they make their decisions based on their money wages. An increase in AD will raise nominal wages and therefore workers will work more due to money illusion, leading to a fall in unemployment below NRU. This produces SRPC. There is a trade-off between unemployment and inflation in both the short run and the long run.
13.	Saving Function	Saving is a function of interest rate.	Saving is a function of income.
14.	Key priority of government	avoidance of inflation is a key priority	avoidance of unemployment is a key priority

Past Paper Questions**Topic: Conflict Of Macroeconomic Aims****1. M/J 19/P41/Q5, M/J 19/P43/Q5**

Distinguish between the internal value of money and the external value of money and consider whether there is a link between these two values. [12]

'Policies which attempt to control the internal value of money will automatically make it difficult to control the external value of money.'

Discuss the view that this statement is only partially correct. [13]

2. Mar 19/P42/Q7

'Keynesian policies to solve the problem of unemployment will not work because they will conflict with the attainment of other key macroeconomic aims.'

Assess the accuracy of this statement. [25]

3. M/J 18/P43/Q6/b

The Phillips curve suggests that inflation can only be controlled at the expense of higher levels of unemployment.

To what extent do you agree with this view? [13]

4. March 18/P42/Q7

Some developing countries pursue export-led growth and argue that the overall growth of the economy can be generated not only by increasing the amounts of labour and capital but also by expanding exports.

Other developing countries prefer to promote growth by encouraging investment by foreign multinational corporations.

Compare these approaches and assess which is likely to be the more effective. [25]

5. O/N 17/P42/Q7/b

In many countries there is a concern about the rate of unemployment.

Discuss whether a reduction in unemployment should always be the main aim of government policy. [13]

6. M/J 17/P41/Q6/a

Governments have a range of macroeconomic aims apart from economic growth.

Explain the other main macroeconomic aims a government might have apart from economic growth.

[12]

7. O/N 16/P42/Q5/b

Discuss whether government macroeconomic aims of full employment, economic growth and price stability are likely to conflict with each other. [13]

8. O/N 16/P41/Q6/a

Explain three major government macroeconomic policy aims and describe why there may be a conflict in trying to achieve them at the same time. [12]

9. O/N 14/P43/Q5

In 2012, after a period of low demand in an economy, private consumption and investment increased and there was economic growth. This was not entirely advantageous as the increase in economic growth can conflict with other government objectives.

Explain why an increase in private consumption and investment might have led to an increase in economic growth and consider whether you agree that this may conflict with other government objectives.

[25]

10. O/N 14/P42/Q6/b

My higher income will make me happier. It will make other people unhappy.

Discuss whether the main aim of government policy should be to achieve a more equal distribution of income. [13]

11. O/N 14/P42/Q5/a

Identify **two** government macroeconomic aims and analyse how a boom will bring beneficial changes for consumers and producers. [12]

12. O/N 14/P41/Q6

Government economic policy should be directed to increasing the standard of living – employment, health, education and a sustainable environment. It should not concentrate on fixing prices, raising taxes and regulating bank lending.

Discuss whether there is any truth in this statement.

[25]

13. M/J 14/P43/Q4/b, M/J 14/P41/Q4/b

Governments sometimes aim to reduce the level of unemployment. Discuss whether this necessarily results in a conflict between this aim and other government macroeconomic aims.

[13]

14. M/J 13/P41/Q7/b

Discuss whether achieving a fall in the level of unemployment should be the main macroeconomic aim of a government.

[13]

15. O/N 12/P42/Q7/b

Too much money causes inflation. Discuss the main macroeconomic aims of the government and consider whether it should give priority to the limitation of inflation in achieving economic well-being.

[15]

16. O/N 11/P43/Q3/b

Car companies employ thousands of people and are an important part of the international trade of some countries. During the recession in 2009 some governments gave subsidies to consumers to encourage them to replace their old cars with new ones.

Discuss whether diverting expenditure to the car industry might conflict with other macroeconomic government objectives.

[13]

17. O/N 11/P41/Q6/a

Explain the main macroeconomic aims a government might have and analyse which would be the most important for your country.

[12]

18. O/N 11/P41/Q6/b

Discuss whether it is possible to aim for all the main macroeconomic objectives without causing conflicting outcomes.

[13]

19. O/N 10/P43/Q5/a

Explain what you consider to be three economic issues in the country in which you live and analyse which is the most significant.

[12]

20. O/N 10/P41/Q7/a

Economic analysis states that the aims of the government include economic growth and economic efficiency.

Explain how achieving economic growth might conflict with other government macroeconomic aims.

[12]

21. O/N 09/P42/Q5/b

Discuss whether the main aim of a government should be to have a policy on population growth if it wishes to increase the standard of living in its country.

[13]

22. M/J 09/P4/Q6

In 2007 a report stated 'classrooms with teachers, clinics with nurses, clean water and working toilets are the key to ending global poverty. Only governments are in a position to provide these services on the scale required'.

Discuss whether governments should abandon their traditional macroeconomic aims in favour of the alternatives in the above statement.

[25]

23. O/N 08/P4/Q6/b

In some countries the rate of unemployment has remained low for several years.

Discuss whether the reduction of unemployment should always be the main aim of government policy.

[13]

24. O/N 07/P4/Q7

Analyse why the aims of government policy might conflict with each other and discuss which of the aims ought to be given priority.

[25]

25. M/J 07/P4/Q7

How far do you agree with the proposition that the main aims of economic government policy should be low unemployment and low tax rates? [25]

26. O/N 06/P4/Q7

Government economic policy should be aimed at the needs of citizens – employment, health, education and a good environment. It should not concentrate on the balance of payments or gross domestic product. Discuss whether there is any truth in this statement. [25]

27. O/N 05/P4/Q5

How far do you agree that low interest rates and low inflation are the most important aims of government policy in maximising economic welfare? [25]

28. O/N 04/P4/Q5/a

Many countries are concerned to promote economic growth.

Describe the other major objectives of a government's macro-economic policy. [12]